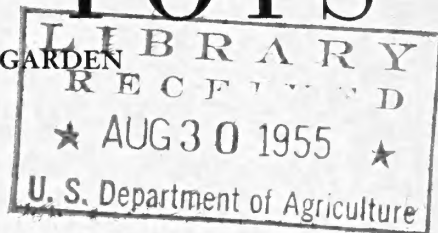


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# BULBS FOR POTS

AND FALL PLANTING IN THE GARDEN



A CATALOG OF THE BULBS AND PLANTS OF THE AMARYLLIS, IRIS,  
ORCHID, GESNERIA AND OTHER PLANT FAMILIES  
AND MANUAL OF THEIR CULTURE

Many Reduced Prices. New Items Listed. Complete Culture Directions.

"Ich Dien," a Personal Letter, — to You.

African Violets on page 25.

## FALL 1955



## CECIL HOUDYSHEL

1412 Third St.

La Verne, Calif.

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# Ich Dien

## A PERSONAL LETTER — TO YOU

Dear Floral Friends:

I want to tell you a story about the introduction of a plant, as it was told to me by a famous plantsman, Major Albert Pam, O.B.E. of England, now a London and New York banker.

In his younger days Maj. Pam explored tropical South America for rare plants, especially those of the Amaryllis Family. He discovered many new species and genera. One genus was named in his honor, Pamiantha. These he collected and sent back to England. Seeds and plants were distributed among botanical gardens, botanists and friends. His plant explorations were an important contribution to our knowledge of South American flora.



**Cecil Houdyshel**

For his contributions to the science of Botany and of Horticulture, he was one in a group of five to receive the second award of the William Herbert Medal along with Ernst Krelage, Pierre du Pont, Jan de Graaff and Cecil Houdyshel.

About every two years, Maj. Pam makes a trip to the U. S. These frequent trips, extending over many years have won for him the title of Unofficial Ambassador of Good Will between England and America.

On his recent visit last March, I showed him a plant which I had been unable to identify. No one else who saw it could give me a name for the very pretty plant with pink spotted foliage. He said that he knew the plant well. It is *Hipoestes phyllostachya*, a native of Madagascar.

It was first sent to Monsieur A, of Paris, who is an avid collector of rare plants. He admired the plant very much, so he said to himself, "Now I have a very rare and desirable plant which no one else has. I will never give one away and thus I will always have a plant that no one else has."

Soon thereafter his friend Mon. B visited him and was shown the new rare plant. He said, "That is a very nice plant. Let me have one." "No," said Mon. A, "I have resolved that I will not give any away as I want to have a plant that no one else has." "But," said Mon. B, "just think of all the rare plants that I have given you. You cannot refuse my request." So he was finally given a plant and was required to promise that he would give none away.

Later, Mon. B was visited by his friend, Mon. C. Mon. C also saw and admired the pretty plant. He said, "That is very nice. I would like one of them." But Mon. B replied, "No, I cannot give you one. Mon. A and I have the only plants in cultivation and we have resolved to give none away. Thus, we will have a plant that no one else has." "But," said Mon. C, "just think of all the rare plants I have given you. You cannot refuse my request." Finally, after promising not to give any away, he received one.

Later, when visiting Mon. C, Maj. Pam saw the plant. He said, "That is a very pretty plant. Let me have one." "No," said Mon. C, "only three people have this plant and we have resolved to give none away so that we may have a plant that others do not have." "But," said Maj. Pam, "just think of all the rare plants I have given you. You cannot refuse to give me one of these."

Maj. Pam won the argument and he gave them freely to every one. Thru him they were distributed to plant collectors everywhere tho it is still in the rare plant class.

It lived over last winter here outdoors, under trees. Our lowest temperature there was about 30°. In one of our greenhouses it has spread by seed into pots or under benches, there may be 50 or more plants. It has been called "The Pink Polka Dot Plant" and the botanical name has been spelled many ways but the plant survives this disagreement, unharmed. I have used Maj. Pam's spelling. If you want a plant, we can supply it during mild weather for \$2.00.

I did not tell you this story in order to sell you plants but to exploit Maj. Pam's idea that plants should not be hoarded, but that we should pass them on to others, free if we are amateurs or at reasonable prices if we are commercial.

This story about Maj. Pam and the Pink Polka Dot Plant illustrates the way that one man has applied the principle of "Ich Dien," I serve. The origin of this classic motto is ancient and obscure. It is believed to have been carried under the plume of John, King of Bohemia, slain at Cressy in 1346, by the Black Prince who assumed it, out of modesty, to indicate that he served under the King, his father. In its modern application it is, consciously or unconsciously, the motto of those who try to help others. It is a good motto to live by.

No people on earth are more anxious to serve others than the Americans. Most of our important public officials serve their country at a financial sacrifice. Our contributions to other peoples speak for themselves.

We ourselves received a letter from a Greek farm woman telling how much the Greek common people appreciate and love the American people. We do not always get appreciation, however. Only too often does a feeling of indebtedness cause the recipient of kindness to feel inferior and that may be followed by dislike or even hatred.

Mrs. Houdyshel desires to remind you that she rents slides of flowers, with a lecture for your garden club programs.

We hope that you may read our entire catalog and note the great variety of bulbs, plants and seed for your outside garden or for pots in house or greenhouse. Also read our Terms and Instructions for Ordering as many mistakes are made by those who do not, — like forgetting to send Sales Tax, if in Calif.

When the catalog is first sent out there is always a much greater volume of orders than we can immediately fill, so be patient. You will not be delayed beyond the best time for planting.

We call your attention to a few items that will be of interest to you. We are offering the latest new varieties of African Violets. These small plants become more beautiful every year and now we have double flowers in the pink colors for the first time. We offer all the best ones so far available.

We have reduced prices on Anthurium andraeanum, Shaffer hybrids. We consider them superior to the types available in Hawaii. Again we are able to offer Anthurium scherzerianum which is easier to grow as a house plant and does not grow to the final large size of A. andraeanum.

A larger number of Dutch Amaryllis are offered and prices are lower.

When you compare prices, please remember that we still prepay the postage on nearly all plants and bulbs.

Our motto is, "Ich Dien."

We hope that you may have a fine garden, in doors and out, for the coming season.

Sincerely,  
Cecil Houdyshel

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## TERMS AND INSTRUCTIONS FOR ORDERING

**Prices** in this catalog cancel all former prices. They are for one bulb unless otherwise stated. 12 bulbs are sold for price of 10 or 6 for price of 5. 100 bulbs for price of 70 unless noted. Books, garden supplies and plants take no quantity discounts. California customers must add 3% Sales Tax.

**Remit** in advance, in full, by check or M.O. No C.O.D. No charge accounts carried. Nothing reserved unless paid for in full. These terms reduce our expenses and lower the costs to you. Checks and M.O.'s must be payable to Cecil Houdyshel to fit our endorsement stamp. 1, 2 or 3 cent stamps are accepted for small sums—under \$1.00.

**Postal rates** have more than doubled but we still prepay all items unless listed "postage extra," when the order is for \$1.00 or more. If under \$1.00, send 25c extra. If you wish to add a little for postage it will not be refused. When postage extra is required or if sales tax is due and you do not send, we notify you before shipping and charge you 5c for the notice. Thus we both lose. Better to send in the first place.

If you want your order to go **Express Collect** for added safety and protection we include either larger sizes or extras. If by **air mail** we charge the customer only the excess cost above that required by regular parcel post. Estimate this and state you will promptly pay the difference if not enough.

**Insurance** up to \$5.00 costs 5c extra. \$5.00 to \$10.00, 10c. \$10.00 to \$25.00, 15c.



Over \$25.00, cost is in proportion to \$25.00 value rate. Postal insurance covers all except freezing in transit. Only Express covers freezing. **Special Handling** costs 15c up to 2 lbs. 2 to 10 lbs., 20c. **Special Delivery** is better as it also speeds delivery and is handled more carefully. We are not responsible if plants are not immediately taken indoors. Up to 2 lbs. costs 35c. 2 to 10 lbs., 45c. Over 10 lbs., 60c Each fee is for one package only.

**Order blanks.** Make your own. They should not be in letter form as this makes it difficult for packers. Place one item only in a line, in this order: 1. Quantity ordered. 2. Name of item but not description. 3. Price of item. Below add other extra expenses like sales tax, insurance, Special Delivery, postage if required.

**Wholesale.** We give no discounts to dealers. There are several items we can supply wholesale. Send your want list and we will quote our best quantity prices.

**Foreign Orders.** If postage exceeds that to our 8th postal zone we charge the excess. Include a little extra for excess postage. **Canadians** should apply to Sec. of Destructive Insect and Pest Act, Advisory Board, Ottawa, Ontario, for Permit and labels and send with order. Many Latin American countries have laws governing importations. Be sure to inform yourself and act accordingly. Ask your Postmaster.

**Partial Shipments** are made if bulbs are not all dormant at same time. We deliver everything within the season for correct planting.

We **guarantee** our bulbs to be true to name and healthy and replace them if not. If you follow our directions in this catalog, they will grow and flower. We cannot assume responsibility if you do not. Such a guarantee usually means that the expense of replacements is spread over the entire sales and everyone pays more for the plants. Everyone fails sometimes and we try to learn from our failures. As necessary **culture directions** are in this catalog, we send none with the bulbs and other plants.

**Catalogs.** **Spring** Catalog mailed Jan. 15. **Fall** Catalog, Aug. 15, or soon after. If you do not send us your orders your name is dropped from our mailing list. If not interested please refuse catalog or ask P.M. to return at our expense. Current catalogs are free. If an old catalog is wanted, please send a dime for it.

**We ship** to every state and territory and to every continent. Calif. bulbs and plants do well, everywhere.

### General Culture Directions

Rich sandy loam is the best soil. But if too sandy, it may lack fertility. It will require more rainfall or irrigation. The ideal garden soil will contain sand, clay and humus. Some plants, like Bearded Iris, do best in a heavy soil. Plants of this nature seldom if ever like shade or acid soils and deep drainage is not so necessary. Other plants, like Gloriosas, must have deep sandy soil. Probably most tuberous plants prefer sandy soil.

All soils require the addition of much humus. Compost all garbage, weeds, leaves, cut branches and manures. When rotted, add to soil and thoroly mix.

**Fertilizer.** We recommend only animal manures, compost and commercial fertilizers that are mostly of organic origin such as Spoonit, listed in this catalog. In the outside garden fresh manure can be used on most plants that are growing vigorously as a very light mulch, but after flowering. Too much fertilizer before flowering may almost or wholly stop the flowers. When the growth of a plant becomes abnormally rapid it is unlikely to flower or produce fruits.

Do not fertilize a plant in dry soil, or use manure (unless thoroly rotted in a compost heap) in the soil before planting bulbs, seeds or plants. Water lawns, trees, and plants well the day before applying fertilizer and again a few days after application. Do not fertilize a sick plant in order to make it well. You are more likely to make it worse or even kill it. Small plants and seedlings should not have too much either. Lush, rapid growth may be weak and "flabby." Sturdy growth with firm structure is better.

Compare plants with people. Both are living, organic beings. Air, water and food are necessary for their growth and health. But one does not give babies beefsteak, fried potatoes, apple pie and a cup of coffee. Nor is this a good diet for an invalid or an ill person, however good it may be for one in vigorous health who performs hard physical

labor. Nor should plants be over-fed or fed at all if sick or thirsty. But since one cannot add much rich food when potting a bulb, very good results may be obtained by a monthly feeding of very weak liquid manure, color of very weak tea. A more convenient way is to use Spoonit, which we list under Garden Supplies.

**After blooming**, many neglect their bulbs. As a result the bulbs do not flower the following year. For success one must continue to give good culture. This is the time to fertilize, irrigate and cultivate frequently, until yellowing foliage indicates the bulb is becoming dormant. During this growth period next year's flower buds are formed.

**Depth of planting and distance apart** often cause too much concern. Bulbs usually have sufficient adaptability to do well under widely varying conditions. If left in one place a few years, most bulbs adjust themselves to their preferred depth. Approximately, bulbs should be about 2 or 3 times their diameter apart unless their habit of growth is spreading—like *Ranunculus*. In such cases plant farther apart. Bulbs as large as Daffodils may be 4" to 6" deep. Bulbs with a heavy erect stem need deep planting in order to remain erect. Plant deeper in light sandy soil than in heavy soils and in cold climates to protect them from frost.

**Pests.** Snails, slugs, ants, mealy bugs, thrips, aphids, leaf hoppers, mites, red spider and scale are among the most serious pests in the garden or on house and greenhouse plants. They must be controlled. See our listing of **Insecticides** under **Garden Supplies**.

**Acid and Alkaline Soils.** Most plants thrive in mildly acid, neutral or mildly alkaline soils. But others do not have so wide a range of tolerance. Rhododendrons, Azaleas, Camellias, Gardenias, Zantedeschias, Caladiums (and other members of Arum family), Nerines, Haemanthus, Gloxinias, Begonias, Orchids and most shade loving plants require an acid soil. Some like *Gladiolus* prefer mildly acid to neutral soils; Bearded Iris do best in neutral to alkaline soils. The acid-alkali balance depends upon the concentration of hydrogen ions in a saturated solution. This is expressed in pH units. pH7 is neutral. Below that the acidity increases; above it the alkalinity increases. For the mathematical, I will explain that the numeral is the negative logarithm denoting the concentration of hydrogen ions in gram atoms per liter.

In regions having heavy rainfall, excess alkali is usually dissolved and carried away by the runoff. Semi-arid regions usually have alkaline soils. Calif. soils usually have too much unless cover crops or applications of humus, which are acid, have lowered the pH. I am told that Texas soils are sometimes too alkaline. The remedy is obvious. Apply humus, ground phosphate rock, or small, even applications of sulphur. Improve the drainage.

**Chlorosis** of plants, indicated by lighter green streaks of foliage, may not be due to a virus disease, in all cases. It may indicate lack of all required nutrients, some of which cannot go into solution in an alkaline medium. Among such nutrients are Nitrogen and Iron which are soluble only in acids. Mild acidity is usually best.

**Potting Directions.** Use clean pots of the right size, neither too large nor too small. A 2½" *Amaryllis*, for example, needs a 6" pot. A 1½" *Eucharis* needs a 5" pot. Small bulbs like *Ranunculus* or *Achimenes* may have 3 to 5 in a 5" or 6" pot. Cover the hole at bottom with a piece of broken pot, concave side down. Above this place a handful of sphagnum moss to prevent the soil from sifting into and clogging the drainage material.

The drainage must be perfect and it is essential that the soil above this drainage be of a friable texture that permits water to pass thru freely. Only very sandy soil will answer this purpose and the sand should be rather sharp and coarse. Add enough sand so that it feels very gritty. The potting soil we like best is about 2 parts of peat or leaf mould and 1 of sand. If peat is used a little woods earth or pure rotted leaves and twigs may be added. Plain dirt, especially if clay is present, or any mixture that becomes lumpy when dry is likely to produce poor results. Mulch surface with wet sphagnum to prevent erosion when watering and too rapid drying at surface.

**Basketing.** Vining or pendant plants like *Achimenes*, *Aeschynanthes* and several of the other Gesneriaceae, *Begonia Lloydii*, *Ceropegias*, etc. look best and do best in our wire baskets, altho they can be grown in pots, suspended by the "Snap-on" pot hangers.

Wire baskets allow perfect drainage and we prefer them also for some orchids like Laelias. We offer the best wire baskets made. Painted wire baskets soon rust out. Ours are galvanized, polished, not soldered but welded.

Place a thick layer of wet sphagnum on bottom and sides of basket. It should be well compressed and at least 1" or 2" thick. For the center one can use a mixture of peat, leaf mould and sand—or any soil formula favorable to the plant. For certain Orchids, Episcias and sometimes other plants, we use only sphagnum thruout.

**Fertilizers** for pots and baskets. The soils recommended above are low in fertility. One cannot add enough to last an entire season. Such an amount would burn the young roots as rapidly as formed. A small quantity of dry, powdered dairy manure is safe but we seldom use it. We prefer to add 1 tablespoonful of bone meal which is slowly soluble and slow acting and a level teaspoonful of blood meal, which is strong and quick in action, to each 6" potful of soil. Too much blood will burn. When plants are in full growth, they may be fed with weak liquid manure, color of weak tea every 3 to 4 weeks. **Spoonit** supplies a more complete ration, better balanced and more convenient. Use of inorganic forms of nitrogen can have bad results.

Temperatures and light exposure are discussed with the listings.

**Sources of Further Information.** Always consider the source of your information. Experience is worth more than reading knowledge. Commercial growers usually have had the experience. Please note our **Garden Reference Books**. Join local Garden Clubs. Subscribe for as many Garden Magazines as you have time to read. We especially recommend **The Flower Grower**, Dept. H., Albany, N.Y., **Popular Gardening**, Dept. H., Albany, N.Y., **Horticulture**, Dept. H., Boston 15, Mass.

## GARDEN REFERENCE BOOKS

**Bailey's Cyclopedia of Horticulture.** This 3-vol. set of over 3,600 pages describes almost every cultivated plant and has a wealth of culture information. Price \$52.00.

**Hortus Second** (Bailey). A concise Dictionary of Gardening. This 778-page volume lists and describes nearly every plant offered in catalogs, and some that are not in the Cyclopedia of Hort. It contains a few culture hints. Price \$12.50.

**Amaryllis and How to Grow Them**, by Peggy Schulz. This book was written for amateurs and by a well known amateur. It contains much useful information. 128 pages, many line drawings, photographs and two colored plates. \$2.95.

**Enjoy Your House Plants.** Excellent handbook of window gardening by Dorothy Jenkins and Helen Van Pelt Wilson. 238 pages. Price, \$3.00.

**The New Greenhouse Gardening for Everyone**, Ernest Chabot. Important factors are noted, including correct temperatures for forcing plants, bulbs, and orchids. \$4.75.

**How to Grow Rare Greenhouse Plants.** A new book on greenhouse gardening by Ernest Chabot. Complete directions for greenhouse culture of 260 rare plants. Everyone having a greenhouse should have both books. 182 pages. Illustrated. \$4.00.

**Geraniums, Pelargoniums**, by Helen Van Pelt Wilson. 248 pages, 7 color plates, many drawings and illustrations. Best book on this subject. \$3.95.

**Gloxinias, and How to Grow Them**, by Peggy Schulz. Illustrated by colored plates and line drawings. Many Gloxinia relatives discussed, 128 pages. \$2.95.

**Tuberous Begonias**, by Worth Brown. Mr. Brown is one of our most important hybridizers and wholesale growers. His book is a complete guide for the successful growing and propagation, outdoors or as house plants. 128 pages, illustrated. \$3.50.

**How to Grow Orchids**, by Cecil Houdyshel. A 12-page pamphlet, no illustrations, carefully explains requirements of easily grown orchids. Price 25c.

**How to Grow Cattleya Orchids** and a few others is told briefly in our 1949 Orchid Price List. The listings are now all cancelled. Price, 15c.

**The Complete Book of African Violets**, by Helen Van Pelt Wilson. This is completely new and gives best information on hundreds of varieties. 29 Saintpaulias are shown in full color. 256 pages, fully illustrated. \$3.50.

**How to Grow African Violets**, by Carolyn Rector. 94 pages, paper-board covers.



Illustrated. How to pollinate, hybridize, grow from seed or leaf cuttings, prepare soils, control pests and diseases, groom plants for show, etc., by a real grower. \$1.35.

**A to Z On Fuchsias.** 136 pages. Cloth bound. Illustrations, some in color. 700 varieties described. \$3.00.

### Garden Supplies

**Postage Extra** is necessary on several items below. The weight when packed is given on these items. It is clearly stated that you must send the postage when you order. Many do not and we must write for it. Here is how to find it. We are very near Los Angeles. Call your P.O. and ask the cost of postage on the packed weight given from your P.O. to Los Angeles and send us that amount. If you do not send the postage in full with order (sales tax too if in Calif.), we write and ask for it before shipping and charge you 5c extra for the notice.

If your shipment goes by express, no postage is due. But the minimum cost of an express package is now \$1.85, any weight, any distance.

**Snail-Kil Pellets.** 1 lb., 45c, plus postage for 2 lbs. Two pounds, 75c, plus postage for 3 lbs.

**Ant-B-Gon.** Set of 4 filled dispensers, 80c, plus postage for 1 lb. Refilling liquid, 4 oz. 50c postpaid.

**Thrip O cide.** Contains DDT. Kills thrips on Gladiolus or other plants. Scale on Orchids. 4 oz., \$1.20 postpaid.

**Vio-Vim,** a fungicide and Bactericide for African Violets. 75c prepaid. Its effect is apparent in the stimulated growth of the plant.

**Wonder Garden Spray.** Spray as directed for cyclamen mite, mealy bug, red spider and other pests. \$1.10 prepaid.

We assume no risk for results with insecticides.

**Spoonit** is the fertilizer we use on African Violets and on all house plants. A new, improved formula is now available. **Analysis:** nitrogen, 18%; phosphoric acid, 20%; potash, 17%. To use, dissolve level tablespoonful in 1 gal. water or level teaspoonful in 1 qt. Give transplants half strength. Apply every 3 or 4 weeks. It never burns. **Prices:** 6 oz. package 50c plus 8c postage. 15 oz. pkg., \$1.00, plus postage on 1 lb. (see paragraph 1 above). 44 oz. pkg. \$2.00 plus postage on 4 lbs.

**Black Magic, African Violet Mix.** The users praise it. 8 oz., price 45c. Plus 10c postage. Dampen before using.

**Georgia Peat African Violet Planter Mix** is close to a perfect soil for African Violets, Gloxinias and others. Contains nitrogen and trace elements. Large bag, 160 cu. in. about 24 oz., 60c plus postage on 2 lbs.

**Horticultural Peat.** High quality. 3 lbs., 50c, f.o.b. Send postage for 4 lbs.

**Sphagnum Moss.** Best we can get. 70c per lb. gross weight. Postage extra, for 1 lb.

**Osmundine,** best Florida brown fiber \$1.35 per lb. package, postpaid.

**Plant Labels.** The following are plastic labels, easily written upon with pencil. **Pot Labels,** length 4½", 35c doz. Length 3½", 30c doz. Small labels for African Violets, 2" long, 25c doz. **Orchid Labels.** Perforated on one end, but without wire or cord, 2½", 30c doz. **Aluminum Tree Labels.** Emboss name on label with sharp pencil or ball point pen. Two sheets of Aluminum make this strong and permanent, with wire to tie on, 35c doz. Package of 50, \$1.00. On orders under \$1.00, send 25c extra.

**Wire Baskets.** Our wire baskets are electrically welded, galvanized, non-rusting. The best obtainable. They look better, last longer than painted, soldered baskets and cost but little more. Price, with hangers, 8", \$1.00 ea., \$11/doz. 10", \$1.25 ea., \$13.50/doz. 16", \$2.75 ea., \$25.00/doz., postpaid.

**Snap On Pot Hangers,** for hanging any size pot. Galvanized. 50c ea., \$5.00/doz. Three or more, postpaid. On less, send 10c ea. for postage.

**Baffle Spray Fogger.** For greenhouse, lathhouse or outside. Fits ½" pipe. Adjustable fog spray thrown 6 ft. increases humidity, lowers temperature. Price, \$1.36. If by mail add 10c.



**Hose End Fogger.** Coarse or fine spray. Useful for spraying orchids, tub. begonias, etc., and for damping greenhouse to increase humidity or as a moveable fogger. \$1.50. Postage, 10c extra.

**Rootone.** Dust seed, roots of transplants, end of cuttings or base of bulbs for quick rooting, more rapid growth.  $\frac{1}{2}$  oz. 50c postpaid. 1 lb. can, \$5.00, plus postage for 2 lbs.

**Vitamin B-1,** 100 tablets. 75c.

**Directions for use,** applying only to our own tablets. In transplanting bulbs or any plants, loose roots, dissolve 5 tablets in 1 gal. of water. Soak roots in this 15 to 30 min. Pour solution around plant when set. To stimulate growing plants, for the first application, dissolve one tab. in 2 gal. water. For succeeding waterings, use 1 tab. to 4 gal. water once a week. **Warning.** Do not soak dormant bulbs in Vit. B-1. It rots them.

## CATALOG ARRANGEMENT

is by Plant Families, according to their relationship.

In the following lists the **genus** (plu. genera) is mentioned first. After it, the species (plu. also species) or horticultural variety is named. The word "Specie" has no horticultural significance. It means "hard money." The initial of the genus is used for the second and succeeding species. Thus A. will stand for Amaryllis or Agapanthus depending on the genus last named in full.

## THE AMARYLLIS FAMILY — Amaryllidaceae

This Family includes the following bulbs, Agapanthus thru Zephyranthes.

**The American Plant Life Society** was founded in 1934 as The American Amaryllis Society. The interests of the Society have recently been enlarged to include other bulbs and plants and the name changed but with no lessening of interest in Amaryllids.

The annual book, "**Herbertia**," is devoted to Amaryllids. It consists of about 250 pages, beautifully illustrated, on fine book paper, and is edited by Dr. Hamilton P. Traub of the U.S. Dept. of Agriculture, (now retired) the greatest living authority on the Amaryllidaceae. Each member receives a copy.

The members also receive the occasional publication, "Plant Life," on other bulbs and plants. Due to present increased costs these publications at present are included in one volume per year.

Those who grow Amaryllis as an interesting and intellectual hobby and who love their vivid beauty, are invited to become members of the society. The annual dues are \$3.00 per year, which you may send to Thomas W. Whitaker, Executive Sec., Box 150, La Jolla, Calif., or you may include this membership fee with your bulb order to us.

The Society also publishes the following book, bound in Manila paper.

**Amaryllidaceae: Tribe Amarylleae**, by Traub and Moldenka. 18 illustrations, 194 pages. \$4.00. This is a systematic treatment of one of the main tribes of Amaryllids, in scientific language. The most important work on the taxonomy of Amarylleae since the publication of Baker's "The Amaryllideae," in 1888. Order from Mr. Whitaker.

**Amaryllid nomenclature.** Carolus Linnaeus, father of modern botany, made the first, rather complete scientific arrangement of plants according to relationships in the 18th century. His information about many plants was wholly inadequate to achieve perfection. Even in my later first French edition, 1798, nearly all American epiphytic orchids were placed in one genus, Epidendrum, and under the genus Amaryllis he included certain Crinums, Zephyranthes, Sprekelias, Brunsvigias, Nerines, etc. Botany is a progressive science and later explorations and discoveries have made possible many improvements in plant classification and have required changes in nomenclature. Horticulturists are often loath to accept the new classifications and names. But we must do so even if inconvenient at first. It is not logical to continue an error.

In our catalogs, we accept changes in classification and names as made by recent writers in Herbertia. These have been approved by "Gentes Herbarum," the publication of the Bailey Hortorium of Cornell University.

**Agapanthus**, Blue Lily of the Nile. They flower here in June to Aug. In the north they must be grown in large pots or tubs and wintered in a frost free room. Plant in full sun exposure in any good garden soil that drains well.

**Agapanthus longispathus**. Similar to well known *A. orientalis*, but smaller and earlier to flower. Profuse bloomer. For pot growing. 50c, 3 for \$1.25.

**A. orientalis**. Dark Blue. Larger than longispathus. Superior clone, \$1.50.

**A. orientalis**. Sky Blue. 75c.

**A. orientalis alba**. Pure White. \$2.00.

**A. von Weillighi hybrids**. Selected clone. A giant type, very large, round umbel of blue flowers on a tall stem. Late flowering, extending the season. \$2.50.

**Alstroemeria (pronounced-stre, not stro)**. The Peruvian Lily. Many showy flowers in an umbel on long, slender, stiff stems. The pastel tones are rich and varied, long lasting and popular as cut flowers. Spring blooming.

**Culture**. They must have good underdrainage and therefore if possible, sandy soil. In heavy soil, their cultivation is made possible by the plentiful addition of sand and leaf mould. 60% to 75% sun exposure. Natives of Semi-tropical America, they have been grown as far north as New Jersey in the garden. This has been possible by planting large tubers about 5" or 6" deep and giving a heavy mulch. There is some danger of freezing and consequent loss in the north the first two winters. By that time they have usually deepened themselves below the depth of frost penetration. We cannot guarantee against loss by freezing, but we offer large tubers that will help.

**Alstroemeria chilensis hybrids**, assorted colors, red, rose, pink, cream, white in a multitude of shades. Separate colors not available. Large tubers 50c.

**A. pulchella**. Smaller plant. Umbels of green and red fls. 40c.

**A. assorted varieties**. These will be smaller clumps. 40c. \$4/doz.

**A. Seed**. Assorted varieties. Plant as soon as received. Packet, 50c.

**Amarcrinum Howardi**. Bigeneric hybrid of *Brunsvigia rosea* and *Crinum moorei*. Beautiful, fragrant, pure pink fls. Fall bloomer. Culture like *Crinums*. Hardy to So. Indiana. Large bulbs, \$3.00.

**Amaryllis Linn**. This genus as constructed by Linnaeus was untenable because he included plants now known to belong to other genera. The invalid name *Hippeastrum* was used by both Herbert and Baker, but now we are scientifically correct when we use the name that has always been most popular.

*Amaryllis* are the easiest, the most showy and popular of all bulbs for growing in pots. Equally desirable for southern gardens where they are hardy along the east coast to N. Car. and on the west to Vancouver. In the middle section they may be grown as far north as Ark. and Okla., but note special directions for colder sections.

**How to Grow Amaryllis**. In the garden, in the deep south where temperatures go only a few degrees under freezing, *Amaryllis* bulbs need to be covered only about an inch or two. Farther north they may be planted deeper in protected places and mulched with straw, leaves and/or brush. In Okla., a customer reports a depth of 4" with mulch is safe. Try our "Hardy Hybrids." *Amaryllis* must not be planted close to trees, shrubs or large vigorous plants, whose roots compete and take the moisture. Irrigate frequently. Rain is seldom enough. The most common error is lack of sufficient moisture. They are endemic to the tropics and in many cases, where there is almost daily rain. The soil should contain much humus. Add well rotted manure and if not slightly acid, add some peat but do not acidify the soil with sulphur or aluminum sulphate. We do not advise planting imported, greenhouse grown bulbs in the outside garden. They seldom do well outside.

**In Pots**. A 2½" bulb requires a 6" pot. Give a 3" to 3½" bulb a 7" pot. Remove dead roots but every vestige of living root should be left on. Our best success in flowering *Amaryllis* and in growing them on to larger, better bulbs is in a soil mixture composed of clean, sharp sand one part by volume and a mixture of pure organic material two or three parts. The latter may be pure peat or about half peat and half well broken up or decayed leaf mould, woods earth or completely reduced compost. The final mixture

should have enough sand to feel very gritty. Such a mixture drains quickly but retains enough moisture around the roots.

To this mixture we add a tablespoon of bone meal and a level teaspoon of blood meal for each 6" pot. This is enough fertilizer until after bulbs have flowered.

One curved piece of pot over pot hole is sufficient for good drainage. Cover this with a layer of wet sphagnum. Set bulb in soil and mulch top surface with a layer of wet sphagnum. The neck and about  $\frac{1}{2}$  of bulb should be above soil surface. This surface should be  $\frac{1}{2}$ " below pot rim. In potting carefully spread out all living roots as they are a great advantage to bulbs. Such bulbs will start more quickly and may be given a warm temperature at once. If there are few or no living roots on bulbs, set them first in a cool place, about 50°, for roots to form and growth start.

We water at once and again when growth has started. With mixture above advised, one is not likely to over water tho you should be a little careful at first, if the bulb had no living roots. For as long as they will grow, potted Amaryllis need frequent watering. They are not only heavy drinkers but gross feeders. If you give liquid manure or Spoonit every 3 weeks, it will be about right. It is also good to vary the diet.

Amaryllis like the sun. If the foliage fades the sun may be too strong or you may not be watering enough. In mid summer in our greenhouses we usually have to apply a little shading to the glass, partly on account of temperatures which may go to over 100° even in our air conditioned houses. Whitewash shading can be washed off when cooler weather arrives. In the house, give them a sunny window. Keep the bulbs growing vigorously until fall, Oct. or Nov. When outer leaves begin to go down, buds have been formed for next season's flowers and bulbs may be dried off and stored in a cool place. Inspect frequently. For early flowers, dry off about Nov. 1.

This describes the method we used this season and formerly. 3¼" bulbs potted from Dec. to about Mar. increased in size. A few burst their 7" pots. Some became fully 5" in diam., others 4" to almost 5".

**Amaryllis advena.** This species is listed by Hayward as **A. bifida**. He is good authority and it may be that. **Ox-blood Lily.** This is a fall bloomer. Hardy to So. Ind., Ill., Mo., Kans., etc. There are 5 to 8 dark red fls. in an umbel. Not suitable for pots. Plant about 6" deep. Large bulbs 50c. Blooming sizes 40c. Smaller bulbs that may bloom, \$1.25 per doz. 100 assorted sizes, \$8.00.

**A. ambigua.** Lily shaped, white flowers with pink markings, on tall straight stems. 5 to 7 flowers in an umbel. The exquisite spicy fragrance perfumes the entire garden. Plant 4" deep in garden in south, to Okla. \$2.50. Believed to be a natural hybrid of *A. elegans* and *A. vittata*.

**A. immaculata.** This rare species belongs to the same subgenus as *A. elegans* and hybrid *Ambigua*. The immense, pure white, deliciously scented flowers come in August. It is a shy bloomer and often skips a year or longer. Evidently horticulturists have not solved the correct culture methods. Offered only to those who feel capable of experimenting. Bulbs become very large. Price \$8.00.

**A. psittacina.** The parrot colored Amaryllis as the name indicates. It comes from S. Brazil and blooms in winter here. The frost usually ruins many of the flowers. The green tinted flowers with carmine lines and edges are very attractive and unusual. The bulb is very large and long necked. This species is hard to get and we have few. Price \$8.00.

**Hybrid Amaryllis.** The Howard and Smith strain is considered to be the best American strain. These are grown from seed produced by moving selected field grown bulbs to greenhouses. There they are hand pollinated with each other and with a large stock of Dutch varieties. The resulting seedlings are field grown to flowering sizes. In the field, weak varieties perish. The surviving bulbs are thus far easier to grow outside in the south than imported, greenhouse grown bulbs.

**Assorted Colors.** We usually find that the better flowers come among the unclassified colors. Price: 2½" to 3" diam., 90c ea. 3/\$2.50. 6/\$4.75. 12/\$9.00. 3" or over, \$1.50 ea. 3/\$4.00. 12/\$15.00. 3¼" diam. \$2.00 ea. 3/\$5.00; 3½", \$2.50, 3/\$6.50.

**H. and S. Near White.** These have lighter color markings than the White Background. A few seedlings of these are likely to be pure white. If pollinated by a pure white Dutch variety, superior seedlings will result. 2½", \$2.00 ea. 3"/\$5.50; 3", \$2.50; 3¼", \$3.00.

**Hardy Hybrids.** These are not hardy outdoors in the colder states but as far north as North Carolina, Washington, D. C., and Oklahoma these have proven winter hardy if covered by 4" of soil and given a good winter mulch of straw.

This is an extremely vigorous, rapid growing and multiplying strain and equally prolific with flowers. There are always a few flowers in the field in the fall. They might give winter flowers in pots. Most of them are similar in color, orange scarlet with white throat and green keel. An ideal strain for outside planting and landscape effects. Their bright vivid color "hits you in the eye." Altho not an exhibition type, many will like them in pots, where they are easier to grow than the more aristocratic hybrids, and their bright cheerful colors will be most welcome. 2½" price 75c ea. \$7.00/doz. \$50.00/100, prepaid. 3", \$1.00, \$10.00/doz.; 3¼", \$1.25, \$12.50/doz.; 3½", \$1.50, \$15.00/doz.

**Dutch Hybrids.** The most perfect of all Amaryllis, in form, coloring and size of flowers are the Royal Dutch or Warmenhoven strain and the Ludwig strain. These we import from Holland. They represent the highest development of the Leopoldi hybrids, having more nearly flat flowers and shorter trumpets. The colors also have been developed into the most exquisite shades.

**Important.** Dutch Amaryllis usually arrive in late Nov. We pack them in a large bag of peat for insulation. We have never yet had one frozen. Since peat is needed in your potting soil we add a tablespoonful of bone meal and a level teaspoonful of blood meal. If you add an equal volume of well rotted leaf mould and the same of sharp sand you have enough potting soil for a 7" pot. This service to you is worth at least \$1.00. Order before Dec. 10 and avoid Christmas congestion of mail which often causes long delays. Express only is safe after Dec. 10, and we will ship only that way if later than Dec. 10.

**Dutch Bulb Sizes.** We order only top sizes, 28 cm. circumference, at least 3¼" diam. We guarantee safe arrival of true to name bulbs.

**Ratings.** Many of the following varieties have been tested at Valleevue Test Gardens, Cleveland, O. Known ratings are given. The highest rating is AA. Dutch growers have reduced prices and we therefore lower ours.

**Royal Dutch or Warmenhoven strain:**

**Bordeaux. A.** Bordeaux or deep wine red. \$5.25.

**Lucifer.** The darkest red, fine contour and large size. A gorgeous flower. \$6.50.

**Moreno. AA.** 8" fls. Unusual color, light wine red, tinted rose in throat. \$5.75.

**Queen's Page. AA.** Fls. over 8", delicate salmon color. Very wide round petals and a perfect contour. \$5.75.

**Red Master. AA.** This variety is in greater demand than any other. Very dark Bordeaux red of immense size, 10" diam. Order early. Last year we sold out before bulbs arrived. \$7.00.

**Salmonetta. A.** Bright salmon-pink, shaded orange in throat. 8" flowers. \$5.75.

**Sweet Seventeen. B.** 9" fls., salmon-rose pink. A favorite. \$6.25.

**Violetta.** Violet tinted rose. Unusual color, large fls. \$5.25.

**Ludwig Amaryllis.**

**American Express. AA.** 8½" fls., rich orient red. Easy to grow and flower. \$6.50.

**Bouquet. A.** 8½" fls., begonia pink shading to rose in throat. A very beautiful flower. \$9.00.

**Doris Lillian. A.** 7½" fls. of deep carmine rose. Perfect contour. A beauty. \$8.00.

**Ludwig's Dazzler. 8½"** fls. of pure dazzling white. Round and perfect in contour or form. \$7.50.

**Marie Goretti. 8"** white fls. with slightly fringed petals. A large stock permits a low price. \$6.00.



**Miss Margaret Truman.** AA. 8" fls. of porcelain rose or rose pink of great beauty. \$8.00.

**Pink Favorite.** 9" fls. of camellia rose pink. Ludwigs seem to consider this and the following the best two pinks and most experts agree. \$8.50.

**Pink Perfection.** A. 8" fls., rose opal pink. Perfect in shape or contour. One of the world's most beautiful amaryllis. \$9.00.

**Roselinde.** 7" nicely rounded fls. of carmine rose pink, lighter in throat. This is a very good pink at a low price. \$5.50.

**Snow Queen.** B. 7½" pure snow white fls., with minutely waved edges which add to its very refined appearance. \$5.50.

**White Giant.** 8" pure white fls.; a magnificent Amaryllis. \$6.00.

**Wyndham Hayward.** AA. 9" fls. of dark orient red. Fine contour. One of the nearest perfect. Named in honor of Wyndham Hayward. \$8.00.

**Special Offers** of Dutch Amaryllis. Any three varieties of Dutch Amaryllis for 5% discount. On a \$75.00 order or over, 10% discount. 15% discount on all 19 var.

We have several Dutch varieties in small quantities, not listed. We will price these, our selection only of variety and strain, at \$4.00 each, labelled. Unlabelled bulbs, that may or may not be named var. for \$3.50 ea. Those in this paragraph may not be counted for the discounts offered on three or more bulbs.

**Small seedling bulbs.** These are seedling bulbs from named varieties, hand pollinated in our own greenhouses. Parentage not identified, our selection but good flowers should result. One year old. 2/\$1.00. 12/\$4.00. Delivery now, before winter prevents, as they have foliage and will continue to grow for about two years before flowering.

**Amaryllis Seed** will cost you less if you buy the bulbs and grow your own. Be sure to pollinate the flowers. When the 3-parted stigma opens the ripe powdery pollen may be applied. When pods split they may be gathered, dried for a few days and seed planted in soil similar to that used in potting bulbs. Plant ½" deep and finish off with a thin layer of wet sphagnum. Or they can be grown in pure sphagnum, well broken up by rubbing or pounding. When crowded, transplant. If kept growing continuously, they should flower in about 3 years. When ripe we can supply H. and S. Strain seed, 1955 crop at 20 seed for \$1.00. Assorted Dutch Amaryllis seed (do not name variety wanted), from named var. only, hand pollinated and grown in our own greenhouses, 15 for \$1.00. Send a stamped, self addressed envelope with all seed orders.

**Brunsvigia rosea.** Familiar in California and the south as Amaryllis belladonna, Naked Lady Lily, etc. It is hardy where minimum winter temperatures are 10° above zero. It will be safe to plant it on the east coast to N. Car. and to Washington, D. C.; thruout the south where winters are mild; on the Pacific Coast to Vancouver. A customer in So. Ind. reports them hardy and flowering. They seldom succeed in pots. We have had reports of good growth but no flowers in Fla., Miss., and La. This So. African does well where there is no heavy rainfall from May 1 to Aug. 1 as here or in its habitat. The flowers are an exquisite pink with a fine fragrance. Aug. and Sept. visitors to So. Calif. take back home the memory of these and want them.

**Brunsvigia rosea major.** Earliest to flower, late July to Sept. 15. 50c ea. \$5.00/doz., postpaid.

**B. rosea major hybrids,** (from Covina) fine colors. 35c and 50c. Mixed sizes, \$12.50 per 100, f.o.b. express.

**B. rosea minor** make smaller bulbs and flowers. Bloom later. Rare, beautiful, 40c. \$4.00/doz. Assorted sizes, \$17.50 per 100, f.o.b. express.

**B. rosea minor, hybrids.** This is a fine assortment, ranging from rose to very dark rose, always with a light throat. 40c and 50c ea. or \$4.00 and \$5.00/doz., postpaid. Assorted sizes, \$12.50/100, express, f.o.b.

**B. multiflora Parkeri.** These are darker rose, some being very dark. The most beautiful of all. 50c and 75c ea., \$5.00 and \$7.50 per doz. Postpaid. \$20.00/100, express, f.o.b.

**B. multiflora, var. Hathor.** Pure white, beautiful and striking. Every garden should have one. This is the regular wholesale price and we pay postage. \$2.00 ea.

**Order very early.** First year flowers are possible if planted Aug. or early Sept.,—but not guaranteed. Our field growing area is reduced and this may be your last chance to get many of these from us.

**Clivias** have evergreen, strap-like foliage somewhat resembling that of *Amaryllis*. The flowers are produced in umbels of 10 to 25, in rich and exquisite tones of orange, in March and April. When not in flower the deep rich green foliage and later the red fruits are most ornamental.

**Culture.** They are usually grown in pots, even in the south, as more perfect foliage is thus possible, and when in flower one wants them in the house. We grow them in a lath house, lath spaced  $\frac{1}{2}$ " apart, and in garden under Avocado (evergreen) trees, directly in the soil as they are often grown in Calif. When grown thus they will make very large clumps. They must have shade with only a few flecks of sunshine, but plenty of light and air.

Clivias must never be dried off or allowed to lose their foliage. Keep them well watered after flowering, all summer and fall. Liquid fertilizer occasionally helps. When growth ceases in late fall rest them by giving them less water. But keep moist enough to prevent wilting of foliage. At this time they should have a cool room with temperatures from above 32° to not much over 50°. Pots should be 8" for a small plant and up to 12" for larger. As they grow and increase, do not divide but shift to larger pots. Drainage must be perfect. Potting soil is described under "General Culture Directions." pH 7 is about right. One cannot guarantee a Clivia to flower the first year after moving tho they usually do.

The foliage of our Clivias, grown outside in the ground, will not be as perfect as that of pot grown plants. But when potted, they replace the old foliage in a few months and become specimen plants.

**Clivia miniata.** Wide open soft yellow orange fls. \$2.75. Small plants \$1.50.

**C. cyrtanthiflora.** Very rare hybrid between *C. miniata* and *C. nobilis*. Large umbels of rich orange, tubular, pendant flowers. Large clumps show flowers in almost every month. Plants become large, multiply very rapidly if watered frequently, and require deeper shade. Price, blooming size plant, \$15.00.

**Eucharis amazonica** (or *Grandiflora*). Eucharist Lily. Star of Bethlehem. First collected on banks of Rio Magdalena, Colombia, S. A. Thus are combined three Biblical names in the lore of this flower. There are 4 pure white, very fragrant flowers in an umbel with a cup in center. The beautiful evergreen foliage makes this always a decorative plant. Flowers are used in corsages and bouquets.

**Culture.** For pots only. We grow in 5" pots and shift to larger when too full, but crowding encourages bloom. We use exactly the same soil as for *Amaryllis*, including a tablespoonful of bone meal to a pot. Because they need abundance of water when growing vigorously and blooming, the drainage must be perfect. They are shade plants but need strong light and some sun, when growing well, to develop flowers. Keep them well fertilized with liquid fertilizer. We use Spoonit. Formerly we sold dry bulbs. When we would receive them they were sometimes very dry. Before all were sold we could find many had become worthless. As growing plants, in foliage, they may be transplanted and go right on growing, this is the better way. Dry bulbs start very slowly and this method will save you much time. When received, pot at once and give full shade for a week, then gradually give a little more light and finally more sun. Keep them growing vigorously for several months until offsets appear and pot is well filled. Then dry them off, giving only enough water to prevent entire loss of foliage. After a few weeks rest, water once or twice. If they do not flower the rest was not long enough or the growth before was not sufficient. Or you may not have given them enough sun. Experienced growers get as many as four crops of flowers in a year. *Eucharis* are tropical plants and 65° is the best minimum night temperature. Our bulbs were over 2" diam. when potted. Growth of foliage reduces this a little. Price, out of pot, postpaid, \$3.00 or f.o.b. in pots

by express, \$2.50. Delivery by mail only in warm weather and not in mid-winter even by express.

**Habranthus** bloom several times a year and at most any time. Culture like *Amaryllis*. After good growth, if allowed to get rather dry for a period they will usually flower after a good watering. Umbels have but one flower. **H. brachyandrus**, lavender purple fls., 75c. **H. robustus**, pink lavender, 60c. **H. andersoni texana**, coppery yellow fls. in July-Aug., 40c, available only to Sept. 15. Late planted bulbs flower second year.

**Haemanthus**. The Blood Lilies of South Africa. So rare that few have seen them.

**Culture**. Hardy only in almost frost free climate like So. Calif. or Fla., if temperatures do not go below 24° at night. They do well in pots anywhere in soil as recommended for *Amaryllis*. Give half shade with top of bulb just below soil surface. Other species are listed in Spring Catalog.

**Haemanthus coccineus**. True Blood Lily, altho all *Haemanthus* are known as Blood Lilies. The umbel of scarlet or blood red flowers (some call them pink) comes in late Aug. to Sept. Unless you order promptly they will be thru flowering. The scape is part of the floral display as it is covered by red spots on a light background. Following flowers are red fruits containing large seed. Save and plant the seed. Blooming sizes, \$2.00 and \$3.00. Extra large, often give two or more flower scapes, \$4.00.

**H. Katherinae** and **H. multiflorus** are the world's most beautiful bulbs. These will be listed in the Spring Cat. at \$5.00 and \$7.50 ea. Our supply is limited. If ordered now you will be sure to get one. Remit in full when you order.

**H. Natalensis**. After growing many years, we now have enough to list. This species flowers outdoors here, close to Jan. 1, if weather is reasonably warm. In pots it flowers a little earlier. The flower is similar in color and shape to that of *H. coccineus*,—not globular like *H. multiflorus* or *H. Katherinae*. We will try to select bulbs sure to flower this year but we have not observed the size necessary very closely. I am sure that all will flower at least the second year. Price \$7.50.

**Growing Haemanthus seed**. When in flower they can be pollinated by rubbing palm of the hand over the umbel. Do this daily until all flowers have opened. If properly done many seed result. We plant seed in 8" or 10" clay pans, half filled with wet peat or sphagnum. Any organic compost will do and sand can be added to improve drainage. Remove pulp from seed and press down slightly, into surface of wet compost but do not cover seed. Place a pane of glass over the top and thus little watering is necessary. Keep shaded and warm. If radicles do not penetrate the soil, help them.

**Hemerocallis Daylily**. The flowers range in color from dark bronzy red, thru pastel tones of pink to orange and yellow. They are borne on a branching scape well above the foliage.

The Greek name, meaning "beautiful for a day," refers to an individual flower. But these are so freely produced thru a long period that "beautiful every day" would be more apt, as a collection of several sorts shows masses of flowers thruout the spring, summer and fall and here we often have some winter flowers. The modern sobriquet of "The Perennial Supreme" is well deserved.

**Culture**. While their beauty is their greatest recommendation, their easy culture and hardiness add to their desirability. I have known abandoned plants here, where we have arid, hot summers, to persist for years. They grow well in full sun. Slight shade is better. If given constant moisture about their roots, preserving this and coolness of the earth with a good mulch, the plants are ideally situated and respond with generosity. They are hardy, even in severe winters in the north. They are fibrous rooted, not bulbs, and must be planted at once when received. Altho they can be moved any time, it is better to ship from late fall to early spring.

**Hemerocallis Araby**. 30". E. (evergreen). A lovely, pastel color, with the effect of bronze on gold dust. Blooms early. 75c.

**H. Calypso**. Large, fragrant lemon yellow flowers. Opens in evening. 42". June-August. 30c ea.

**H. Cecil Houdyshel**. E. A Dr. Traub origination. A deep crimson with an old

copper shade that makes it outstanding in our garden. Slight shade gives better color to flowers. 3 ft. June-July. \$1.00.

**H. Chengtu.** E. Brilliant coppery orange-red with carmine mid-zone. 36". July-Sept. 50c.

**H. Cinnabar.** E. Cinnamon sprinkled with orange, gold-glistening. 30". July-Aug. 50c.

**H. Crown Prince.** E. Color like Mikado. 30". June-Aug. 25c ea. Per doz. \$2.25.

**H. Dauntless.** E. Cadmium yellow. Fulvous red blended in mid-zones. Pastel effect. 30". June-Aug. 75c.

**H. E. A. Bowles.** 48". Large ruffled flowers of deep red-orange blended with gold. Early. 50c.

**H. Evangeline.** 40". Large, rosy flowers with purple eye zone. Early. 75c.

**H. Florham.** E. Still popular old hybrid. Large, golden yellow. May-July. 50c.

**H. Florida.** Pastel shades. Light chrome yellow with rose blush. Darker mid-zone. July-Aug. \$1.50.

**H. Iris Perry.** E. 36". July-Sept. Orange-bronze. 50c.

**H. Kwanso.** The Double Orange Daylily. 25c ea. 3 for 50c.

**H. Linda.** E. Petals, ruffled golden yellow, flecked with cinnamon, and a rose zone. Sepals, pure yellow. Very lovely. June-July. 50c.

**H. Mandarin.** E. 48". Lemon yellow. June-July. 50c.

**H. Margaret Perry.** E. Brilliant orange-scarlet. 4 ft. July-Aug. 35c.

**H. Mikado.** E. Orange with mahogany-red zone. A favorite. 3 ft. May-July. 35c.

**H. Modesty.** 36". Large, pale, creamy yellow. Our nearest white. 50c.

**H. Nubiana.** E. Dark chocolate-red with yellow stripe in petals. One of the darkest varieties. 2 ft. 50c.

**H. Patricia.** 30". Pale yellow, large fragrant flowers. July-Aug. 50c.

**H. Radiant.** 42". Rich orange. June-July. 50c.

**H. Rosalind.** Famous pink Daylily. Pastel pink. \$1.50.

**H. Radiant.** 42". Rich orange. June-July. 50c.

**H. Rajah.** 40". Deep English red, veined darker. Garnet red eye-zone. July-Aug. 50c.

**H. Rosita.** E. 36". Near Carmine, tinted copper. Part shade best. \$1.00.

**H. Royal.** E. 40". Beautiful golden yellow. Fine texture. July. 75c.

**H. Royal Ruby.** All agree it is the finest red, to date. 40". July-Aug. \$2.50.

**H. Serenade.** 48". Rose on apricot cream. Faint dark overcast. June-July. 75c.

**H. Sibyl.** E. Dark red-purple petals, lighter sepals. \$2.00.

**H. Soudan.** 36". Lemon yellow. Broad, wavy petals and sepals. June-July. 50c.

**H. Vesta.** 30". Deep orange with glistening gold sheen. May-July. 50c.

**H. Vulcan.** E. 30". Darkest maroon red. July-Aug. 50c.

**H. Wau Bun.** Large apricot, sprinkled fulvous-red. The twisted and curved petals add gracefulness to its beauty. 75c.

**Complete Collection.** The entire list of 33 varieties are priced singly for \$23.75. They will be labelled with permanent aluminum garden labels, an added value, for \$22.00 postpaid. If by express, f.o.b., we will send larger divisions.

**Lycoris.** Oriental Spider Lilies are natives of Japan and China. The entrancing beauty of their flowers makes them the most popular of garden bulbs in the south and very desirable pot bulbs in the colder sections. The most tender is *L. aurea*. It is hardy only in the deep south. All the others are hardy up to Va., Ky., Okla., etc. They prefer sandy fertile soil with peat or leaf mould added, plentiful watering from mid July.

**Lycoris albiflora.** Large white fls. with color markings. Almost hardy. \$1.00.

**L. aurea.** Golden Spider Lily. One of the most beautiful of all bulbs. Not hardy except in deep south. \$1.50.

**L. incarnata.** Flesh pink. Almost hardy. Free bloomer. \$1.00.

**L. radiata.** Red Spider Lily. Hardest of these listed here. Hardy to So. Kan. Deep coral red. 50c.

**Nerine.** This genus includes some of the most beautiful of flowering bulbs. They



bloom in succession from about Aug. to Jan. Hardy only where temperatures seldom go lower than 26°, but they are fine pot bulbs. **Culture.** Pot or plant in acid, sandy soil. Add peat or leaf mould. Pot at once with bulb covered and a little deeper in garden, in full sun. When foliage yellows, withhold water. Keep as near dry as possible when dormant. There is only one reason why you do not all buy Nerines. You do not know their beauty and ease of culture.

**Nerine Bowdenii.** 10 or more fine pink flowers in an umbel 9" wide on a 15" scape. One of the finest Nerines and very easy. 50c and 75c ea.

**N. Bowdenii, var. Pink Beauty.** Has larger, finer flowers and flowers much later, usually in late Dec. or early Jan. Multiplies rapidly yet we can seldom have enough stock to list. \$4.00 ea.

**N. Bowdenii, var. Magnifice,** very fine improved Bowdenii, similar to Pink Beauty but flowers earlier. Extra special price, \$1.00 ea.

**N. fothergilli hybrids.** Variable shades of red and pink. Some are Bowdenii crosses and similar in color. \$2.00.

**N. rosea-crispa.** Hybrid of Filifolia but larger in all parts. Can be kept evergreen or dried off in summer. 50c.

**N. undulata.** We have received this from van Tubergen under three names. It is a lovely pink var., many small fls. in a large umbel that is fine for cutting. 50c, \$4.50/doz.

**Sprekelia formosissima superba.** Orchid amaryllis. Deep crimson flowers in orchid-like form. Much larger than common type, better color, more flowers. Evergreen. Fine in pots. Culture like Amaryllis. 75c.

**S. formosissima, type variety.** Similar color but slightly variable. 75c ea.

**Tulbaghia violaceae.** Mauve flowers produced thruout the year, a true ever-bloomer. Foliage has garlic odor if bruised. An acquisition for pot culture. 25c ea. \$2.00 per doz.

**T. fragrans.** This species has a large, true bulb, with glaucous green foliage, 18" long and 1" wide. It has no allium odor. The plant is a profuse winter bloomer in a cool room with a few flowers in summer. It has larger fragrant flowers than violaceae, in the same color. Evergreen. Special price \$1.00.

**Zephyranthes. Fairy lilies.** The smallest Amaryllid, 6"-12" tall. Fine in beds or borders. Hardy in middle south. In north, dig and store. They may be grown in pots. Give acid soil, sandy loam with leaf mould or peat. Full sun or slight shade.

**Zephyranthes Ajax. Hybrid.** Described as light yellow but seldom do you see one that is more than pale cream. Years ago we grew a great number of seedlings and selected the deepest yellow we have seen. It is really medium yellow and its seedlings are similar. First time offered. \$1.00.

**Zephyranthes candida.** Pure white, evergreen. The masses of white flowers in late summer make them outstanding in a bed or edging for border. Half hardy and easy in pots. 2 for 25c. \$1.00 per doz. Per 100, \$5.00.

**Z. grandiflora.** The largest Zephyranthes. It is very easy to grow. In the south, its habit of flowering every time it rains in summer gives it the name of Pink Rain Lily. Small bulbs, 2 for 30c. 12 for \$1.25.

**Z. rosea.** Small, but very lovely deep pink flowers. They do not do well in alkaline soils, add much peat. Fine in pots, about 8 or 10 in a 5" pot. 15c ea. 10 for \$1.25.

**The Alliums** were formerly classed under Liliaceae but modern botanists place them in the Amaryllidaceae. Here is a nice one for winter flowering in pots. Try four in a 5" pot. Use very sandy soil with some crushed shell from your dealer in poultry feed. Give full sun.

**Allium neapolitanum grandiflorum.** Pure white flowers in winter. Hardy in deep south. 4 bulbs for 35c.

## BULBS AND PLANTS AS PRESENTS

When you wish to select a present, why compete with shopping crowds until you are so tired that you finally select something doubtfully satisfactory. Impatient, tired salesmen or those who exert pressure do not help us to make a wise choice. Many of

your friends would prefer a bulb or a plant anyway. Garden books, African Violets, Orchids, Amaryllis, Oxalis—all make nice presents. Take it easy. Sit down in a comfortable chair and select your presents from our catalog. Items to value of \$1.00 or more can be sent postpaid to your friend. Send your own card to enclose or have all sent to you for distribution.

## IRIS FAMILY — Iridaceae

The Iris is the type genus of this family, which includes Iris, Gladiolus, Watsonias, Freesias, Sparaxis, Tritonias, Babianas, etc.

**Tall Bearded Iris.** A garden is not complete without a good collection of Bearded Iris. These can be planted until late into the fall, but the earlier you plant the more flowers you will get next spring.

Our "Iris 400, Price List," lists nearly 250 of the newest and best. The culture information is valuable as it tells you how to grow them and how to get a profusion of flowers every year. In order to make this available to everyone, whether they wish to buy or merely want the culture information, we charge a dime for it.

This is a folded sheet 9"x18", printed on both sides, no illustrations.

**Special Offer of Bearded Iris.** We have a surplus of several excellent varieties from this list and offer 100 rhizomes in 20 to 30 varieties assorted, unlabelled, f.o.b. express for \$10.00. **From the Price List** we will send \$6.50 value for \$5.00, postpaid and \$13.50 value for \$10.00 in place of discounts offered in price list, but not on collections.

Please name several substitutes as we are out of a few that are listed.

**I. unguicularis.** Hardy only as far north as Washington, D.C. Bluish lilac fls. in winter. Needs partial shade. Water frequently when first planted. 50c.

**I. Douglasiana, var. Watsoniana.** Blue. Calif. native. Hardy in north. 75c.

**I. spuria aurea.** Tall yellow. Hardy. 75c. **I. spuria ochroleuca,** similar, fls. white with yellow falls. 50c.

## GLADIOLUS

**How to Grow Gladiolus.** Glads planted Jan. 1 to Mar. 1 in Southern California and thruout the south (a little later in Northern California and early as possible in spring in the east) are reasonably sure to escape the attack of thrips.

**Thrips** are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm. To avoid the damage thrips do, four measures are effective. Plant early. Plant clean, treated bulbs. Keep them reasonably moist and well cultivated, with no weeds. Dust with Chlordane. A hand duster and Chlordane can be bought from most local feed or seed stores. Chlordane tho toxic is safe to use but do not use on vegetables. Be careful not to breathe much of the dust. It also kills ants, cut worms, wire worms, etc.

Dust Gladiolus 3 or 4 times before flowering. Begin when plants are 6" or 8" tall.

If you cannot get it locally we can supply 1 lb. package for \$1.00, postpaid. If in an express shipment price 60c. This Chlordane Kil Dust 5 kills nearly all pests.

Many will prefer to spray instead of dusting. For a spray use "Thrip O cide" which we list under "Garden Supplies," 4 oz. for \$1.20 postpaid.

Plant large bulbs (really "corms") 4" to 5" deep. Half inch bulbs, 3". Bulblets 2". Twice their diameter apart. Rows 20" apart, in full sun exposure. Best soil is sandy loam but they do very well in heavy soils, especially if leaf mould and compost is added. Alkaline soils do not produce good Gladiolus. Correct them by addition of peat or leaf mould. Use only well decayed manure, if any. Spoonit is an excellent mildly acid fertilizer.

**Sizes.** Size No. 1, 1½" up. No. 2, 1¼" to 1½". No. 3, 1" to 1¼". No. 4, ¾" to 1". No. 5, ½" to ¾". No. 6, all under ½". In the following list L. means large, No. 1 or 2; M. means medium, No. 3 or 4; S. or small are No. 5 or 6. Smallest sizes bloom and often bulblets. Nos. 2 and 3 are preferred for growing commercial cut flowers.

**Prices** are for one bulb. Multiply by 10 for price of one doz. 6 at doz. rate. 100 cost 70 times the cost of one or 7 times the cost of one dozen.

Our bulbs are grown in rich soil, on the heavy side. They are not always as nice looking as bulbs grown in the thinner sandy soil. They often perform better and we guarantee them to grow well. They are priced lower than usual prices. We believe we have enough of all but it's wise to name substitutes.

**Bridesmaid.** Color, peaches and cream. L. 8c.

**Buckeye Bronze.** Bronze-red. Fine for cutting. L. 7c. 12/75c.

**Burma.** Deeply ruffled, dark rose red. Opens 7 fls. at one time. Jumbo bulbs, 12c. L. 8c.

**Capeheart.** Early salmon rose. A favored florists pink. No. 1 and jumbo, 10c. L. 6c. M. 4c.

**Debonaire.** Tall, early pink. Jumbo, 8c. L. 5c. M. 4c.

**Elmer's Rose.** Heavily ruffled, deep rose. Opens 7-8 fls. Fine exhibition and florist type. L. 25c.

**Ethel Cave Cole.** Favorite, best florists pink. Very large fls., many open. Jumbo 10c. No. 1, 8c. L. 6c. M. 5c. Bulblets \$1.00/100. For Decoration Day flowers, plant jumbos.

**Gold.** Heavily ruffled, deep yellow. Outstanding commercial and exhibition and vigorous as well. L. 35c.

**H. B. Pitts.** Very fine large orange pink. Fine for cutting. Jumbo, 10c. L. 7c.

**June Bells.** Earliest white. Tall, with large very beautifully ruffled fls. Jumbo 12c. L. 10c.

**Los Angeles.** Sm. grenadine pink fls. Long ago a favorite of cut flower market, now valued for landscape use as one bulb has produced as many as 100 flowers. No. 1, 7c. L. 5c.

**Margaret Beaton.** Snow white with scarlet throat. Still a favorite. Jumbos, 8c.

**Mauve.** Our recent introduction of this unusual color. Jumbos, 12c. L. 8c.

**Mother Fischer.** New ruffled white that became instantly famous. It is perhaps the most beautiful white. Seven fls. open at one time. L. 35c ea.

**Pinocchio.** Most unusual color, blending to pink, yellow, green, orange and red, intensely ruffled and fluted. 4" fls. 7 open at a time on tall stem. L. 10c. M. 7c.

**Poinsettia.** Pure, rich light red. Called the finest commercial red ever produced. L. 30c.

**Red Charm.** Pure med. dark red. Opens 8 to 9 at one time. Jumbo, 10c. L. 8c. M. 6c. Bulblets, \$1.00/100. (Not less than 100 sold.)

**Red Unknown.** Name lost but a valuable pure red. L. 6c. Bbts., 100 for 50c.

**Snow Princess.** Early, pure white. As good as the best. L. 7c. M. 5c.

**Spic and Span.** Tall, ruffled deep pink. Up to 10 open. L. 8c.

**Timor.** Beautiful and unusual shade of red. Jumbo, 12c. L. 10c.

**White Gold.** Largest and earliest cream white. A 1-spike bouquet. Jumbos, 10c. L. 8c. Bulblets, \$1.00/100.

**Assorted Varieties.** No. 1 to Jumbo, \$100/doz. \$7.50/100, postpaid, or \$6.00, Express Collect. Nos. 2 and 3, fine bloomers, 50c/doz. \$3.50/100. On 100 we must send mostly No. 3 to customers beyond our 4th postal zone. Bulblets \$1.00/pint.

**Miniature Gladiolus.** Like a miniature carving, a cameo or fine lace, they are dainty, beautiful and alluring. Fine for cut flowers. All are good blooming size bulbs.

**Crinklette.** Ruffled orange pink. 15c. \$1.25/doz.

**Fairy.** Light lavender pastel. Dainty. 15c. \$1.50/doz.

**Fairy Fancy.** Cream and very nice. 15c. \$1.25/doz.

**Kriss Kringle.** True Christmas red. 15c. \$1.25/doz.

**Oberon.** Fine scarlet. 15c. \$1.25/doz.

**Ruby.** Early, ruby red. 20c. 3 for 50c. \$1.75/doz.

**Snow Baby.** A very fine white. 15c. \$1.25/doz.

**White Butterfly.** By Kunderd. Early white. 20c. 3/50c. \$2.00/doz.

**Assorted Colors,** miniatures, in endless variety. Special price, 10c ea. \$1.00 doz. You can afford a lot of the mixed and a few of the named. This is a genuine bargain as these are all named varieties, accidentally mixed.

**Gladiolus byzantinus**, a species about the size of a baby gladiolus. Dark purple flowers. Hardy in north and does not need to be dug and stored over winter, anywhere. Winter grower here and in deep south. Small bulbs, 15c.

**Neomarica** (Marica), have long been favorite house plants in the north, but rather rare. They are both curious and beautiful. The blue and white flowers on the tip of a leaflike scape in Jan. to April are followed by small plants. They become heavy and the scape arches until young plants touch the soil and take root. Hence their common names, Walking Iris and Apostle Plant. **Culture:** Shade plants but they need early and late sun to induce flowering. Soil formula, sharp sand, leaf mould and peat or sphagnum. Evergreen. Keep well watered, constantly wet. Tolerant to temperature but 50° to 70° is good. Not killed by 28°, outside.

**Neomarica gracilis**. Smallest and earliest. Use 5" pot. 75c.

**N. Northiana**. Larger plant and flowers, slow propagator. Use 6" pot. \$1.75.

**N. Hybrids**. We crossed the above species and raised plants with flowers as large as Northiana, as profuse as gracilis and plants midway in size. They are rapid multipliers. \$1.75. All 3 kinds for \$4.00.

**Moraea polystachia**. 2 ft. stems produce a multitude of iris-like flowers, violet with mauve and yellow in throat. A bed is a stunning sight. They increase rapidly by self-sown seed. Hardy in south and middle south to Tenn. In the north grow in a 5" pot, sandy soil with leaf mould, full sun. 15c and 25c ea. \$1.00 and \$2.00 doz.

**Culture Suggestions**. Moraea to Tritonias. These are all most desirable items for Southern Gardens. All are hardy to about 24° to 26°. All need full sun exposure, prefer sandy or light soil and should be planted about 2" apart in garden or pots and 2" or 3" deep. All are winter bloomers and as house plants must have cool rooms. Height of plants is stated in inches, thus 20".

**Babiana Hybrids**. 8". Blue shades, nice plicated foliage. 3 for 15c. 50c/doz.

**Ixia Hybrids**. 12". Fls. white when open. They close at night or on dark days, when they are equally pretty as outside is like a red striped candy kiss. L. 4 for 25c. Small bulbs that will flower outside but doubtful for pots. 35c/doz.

**Sparaxis**. Richly colored fls., on plants about the size of Freesias. Mostly red shades. No perfume. Easier to flower in pots than Freesias and hardier outside in south. Blooming size, 6 for 25c, 40c/doz. Large, 3 for 15c, 50c/doz.

**Tritonia hyalina**. 10". Flame Freesia. Deep pink or red, very attractive in pots or garden. 10c. \$1.00/doz. Small, for outside. 50c/doz.

## LILY FAMILY — Liliaceae

Many call all bulbs lilies, an error. Included in the Liliaceae are Hyacinths, Tulips, Muscari, Ornithogalum, Veltheimia, Scillas, etc. For Callas see Araceae.

**Scilla peruviana** is an ideal bulb for pots or garden. It is hardy to N. Car. and in Long Island. As a house plant it does well in cool but sunny rooms. Give full sun outdoors. Winter bloomer. The short foliage is nice and flower head is oval and on a short stem. Blue fls. Extra large bulbs, 90c. L., 60c and 75c. Blooming size, 40c.

**Ornithogalum arabicum**. A round, glossy black ovary in the center of a pure white flower makes a striking contrast at Easter time. Hardy only in south, but in the north they are easy in pots and bloom for Easter if planted early and grown in a cool room in good sun exposure. Low priced, easy to grow and desirable, early white flowers are a winning combination. L., 25c. M., 15c. One to 5" or 6" pot.

**Veltheimia viridifolia**. This is one of the most beautiful plants one can grow in a pot. The glossy vivid green leaves are wavy margined and form a perfect rosette much like a bird's nest fern. From the center arises a scape with tubular drooping flowers closely spaced. The color is a deep rosy or purplish pink of an ineffable tone not found in any other flower. It begins to bloom, if planted early, in So. Calif. gardens or other equally mild climates or in pots in the north by Dec. 15 and continues for nearly 3 months as larger bulbs send up 2 to several spikes. Culture is very easy. Use a sandy loam



soil to which is added fine screened peat or leaf mould about one-fourth. Some charcoal is good. Do best in part shade. Drainage must be good as they need frequent watering when in flower—but never soggy. Read potting directions again under “General Culture.” Order before Oct. 1, if possible as after that date *Veltheimia* start to grow in storage. We can ship later but they are hard to pack after foliage starts. We have no extra large bulbs this year. Blooming size 75c and \$1.25 ea.

## OXALIS FAMILY — Oxalidaceae

There are three types, Winter growing, Summer growing and Evergreen. The following are winter growing and blooming or evergreen. Oxalis are the brightest and most vivid of winter flowers for a sunny window or in outside beds in the deep south, where temperatures do not go much below about 26°. They give a profusion of bloom over several months time. They need a cool room.

**Culture.** Plant about 2" deep, 3" apart. Large bulbs may be farther apart and a little deeper. In pots, the smaller may go 6 in a 5" pot. They need full sun exposure and do best in a very sandy soil, rich or poor. Flowers close at night and on dark days. Tuberous rooted species start very slowly. Keep them moist and be patient.

**Oxalis Bowiei.** A large plant with bright rose red flowers. 3 bulbs to a 5" pot 5c ea. 50c/doz. \$3.75/100. Largest size 10c ea.

**O. brasiliensis.** Bright magenta fls. Starts growing in winter. If constantly watered it may be evergreen, or almost. 25c ea.

**O. cernua. Bermuda Buttercup.** Deep golden yellow flowers. Very profuse. 5c ea. 50c/doz. \$3.50/100. Extra jumbo bulbs 10c, 3 for 25c, 85c/doz.

**O. cernua, flore pleno, Double Bermuda Buttercup.** Smaller plant than the above. The flowers are very double. 25c.

**O. crassipes.** Flowers bright rose. Evergreen and everblooming. Increases by tubers and can be moved at any time. Plant at once. Large tubers 15c ea. \$1.00/doz.

**O. crassipes alba.** A pure white form. Very pretty. 25c ea. 6/\$1.00.

**O. Grand Duchess.** Low growing plants, but give a profusion of very large flowers in three colors. The **Pink, Lavender** and **White**, 5c ea., 50c/doz., \$3.50/100. Largest size 10c each. Botanically, this is probably *O. variabilis*.

**O. Regnalli.** Large, truncate leaves, reddish on underside. Trifoliate. Evergreen and everblooming. Large white fls. Tuberous rooted. 35c ea. 3 for \$1.00. This is probably the same as *O. rubra*, var. *alba*.

**Oxalis Special.** The bulbs offered in this lot are assorted in size and color. They will all flower well. Some are accidentally mixed, others are surplus. Price, 30 for \$1.00.

## THE CALLA LILY FAMILY — Araceae

This family contains the so-called Calla Lilies or *Zantedeschia*, Black Callas and other Aroids.

**Culture.** All *Zantedeschias*, *Arum palaestinum* and other aroids listed here are desirable for pot culture. *A. palaestinum* will start about Sept. or later. Do not put this bulb into moist soil before that or it will rot. *Zantedeschias*—pink and yellow—may be potted by about Dec. 15. Don't rush them, as too much water before they start to grow may rot them. It is really better to start in early spring, here in late February. All do well in the garden in a moist semi-shaded cool place. They are not hardy in cold climates; dig in fall. The White Calla usually blooms in California in the garden in late winter. They may be planted in early fall in pots or garden. All do best in mildly acid soils, on sandy side. For acidity add peat. Most Aroids are shade plants.

It is an error to keep large White Callas growing continuously. If rested thru summer you will be rewarded with flowers. Callas as pot plants need some sun, enough to prevent spindly growth, plenty of light and like all plants, good ventilation. They need abundant water but good drainage.

**Zantedeschia aethiopica.** Well known **White Calla**. They can be potted anytime be-

tween Sept. 1 and Jan. 1. Even later if available. Water once when potted to settle soil. Then keep soil barely moist until growth is well started. When growing well they need plenty of water and perfect drainage, give about half shade. They are hardy outdoors down to 15° but tops may be cut down by frost at about 20°. Blooming size, 25c. Large 50c. Small offsets for foliage only, 15c.

**Z. rehmanni elegans.** Light pink Calla. Easier to grow and flower than the dark pink. A few are very light, almost white when forced but darker in the garden, and always beautiful. Large bulbs, 40c. 3 for \$1.15. Delivery Nov. on all Zantedeschias.

**Z. elliotiana.** Deep Golden Yellow Calla. Like all the callas, they need some sun. If they do not have it they grow too tall and weak and may fail to flower. Half sun is usually right. 30c ea. 3 for 85c. Delivery Nov.

**Arum palaestinum. Black Calla. Solomon's Lily.** Foliage and flowers are shaped like Callas but flowers are black and odorless. Plant 4" deep in garden, not so deep in a pot. Begin to water about Sept. 1. Flowers in Feb. Large for 50c and \$1.00 ea.

**Anthurium andraeanum.** Until very recently these have been high in price. But now prices are reasonable. The cordate leaves make them useful as foliage plants alone but a mature plant will flower six times a year. Flowers are calla-like, but rather flat, in glossy red, pink, orange, coral, rose and rarely white. They are much used for cut flowers in arrangements and corsages. They are everblooming if given correct conditions at all times, but sometimes take a vacation when very hot, very cold or very dry.

**Culture.** Anthuriums and Spathiphyllums are tender tropical plants, suitable only for pot culture. **Soil formula.** They will grow in most any organic compost. We use and advise one part old osmundine (discarded from orchid pots, new will do); one part peat. Add enough Sponge Rok or coarse sand to make compost very gritty and to hasten quick drainage. See Potting Directions under General Culture. Add a thin layer of sphagnum on surface to prevent eroding the surface when watering. Set plant low in an oversized pot and as it grows, new roots are formed on compost surface which should be covered with more sphagnum. When compost surface reaches rim of pot, shift to larger pot, or build up with sphagnum. New roots must be kept covered.

Use Spoonit or liquid manure once a month, after plants are well established. The preferred minimum night temp. is 60° or over. 45° does little harm other than to stop growth and flowering. 70° to 80° is a good daytime temp. Air should be very humid. Spraying foliage daily increases air humidity. They should never become completely dry, thruout. Water about every two days.

**Shipping.** The best way is in pots, by express. But you pay the express and it costs us more to pack. Plants are set back a little by sending by mail, out of pot. But they recover and you save quite a lot on the total cost. Which compensates for the recovery period. If by mail you should add 35c for plants under 8" and 45c for larger sizes for "Special Delivery," also for Insurance fee if desired. They cannot be mailed in cold weather.

**Anthurium andraeanum, Shaffer Hybrids** are the best. Plants should begin to flower at 10" to 12" height. We have had 6" plants flower and very often 8"-10" flower. They grow and multiply so rapidly that we are forced to make sharp cuts in our former prices. They are really bargain prices. If you have a warm living room or a hobby greenhouse, by all means take advantage of these offers. The figure enclosed in parentheses thus (3") is size of pot advised for the plant. **Prices, Assorted Colors**, out of pots, postpaid or established in clay pots, by express, f.o.b. Plants under 4" tall (3" or 4"), \$1.00. 4"-6" (4"), \$1.50. 6"-8" (4"), \$2.00. 8"-10" (5"), \$3.00. 10"-12", \$3.50. The last should flower very soon. Plants in flower or those that have flowered (5"-6"), \$4.00. Winter light does not promote free flowering and fewer in bloom will then be available.

**A. scherzerianum.** This species is easy to grow as a house plant as it is less demanding about temperature, etc. Mature, old plants may become 15" to 18" tall, but they start blooming at only 4" or 5" tall. Colors range from red, spotted red and white, to white. We have been unable to offer these for a few years but now we again have a good supply. Blooming size, assorted colors only \$3.75.

**A. crystallinum.** A beautiful foliage plant, inconspicuous flowers. Leaves are cordate-ovate to 10" wide and 14" long, deep velvety green, prominently veined white. Pale rose on underside. Blooming sizes \$2.00. Smaller plants, \$1.50.

**Spathiphyllum Clevelandi.** Close relative and formerly classed as an Anthurium. Foliage is oblong and pointed. Flowers are pure white and long, very attractive. They are easy to grow as house plants, in 4" pots. \$1.50 and \$2.00.

## FANCY LEAF GERANIUMS

**Fancy Leaf Geraniums** have been having a renaissance of popularity. The gorgeous colors in their foliage surpass belief, until seen.

**Culture.** The Fancy Leafs are pot plants. The plants we send out are ready for 4" pots. Use only unglazed clay pots,—no plastics. Do not allow pots to stand in saucers of water. Give almost full sun for about one half day or more, strong light for the balance. If shaded much, stem rot results. Do not keep plants in a soggy condition but keep moist enough to prevent wilt.

All plants need air penetration thru the soil to their roots. Porous pots aid and friable soils are necessary. Geraniums especially, insist on this. The best soil is one that allows water to drain quickly yet retains enough for one or two days supply. Such a soil may be composed of good garden loam one part; peat, shredded or cut sphagnum, fibrous leaf mould, (or a combination) 3 parts; enough coarse sand or Sponge Rok to make the compost quite gritty. Be sure your final compost drains well. We mulch top of soil with sphagnum.

Do not add manure or fertilizer to potting soil.

When plants are received they will be in waxed paper pots, out of 3" pots. Do not use larger than 4" for geraniums as house plants. Disturb soil as little as possible. If plant is not bushy, pinch out the tip of the main stem. Water at once.

We are often told that plants arrive in excellent to perfect condition but even with expert packing, very often some of the leaves will be lost. They do not like the long dark night without fresh air. They are guaranteed to recover if our directions are followed.

**Prices.** If our prices are higher than those of another catalog, this is the reason. We make no packing charge. We prepay regular parcel post charges on orders for \$2.00 or over on Geraniums alone. We have bought from most of the other growers and have seen the plants. We send out much larger plants than any we have received. Most growers give no guarantee of safe arrival, but shift responsibility to the carrier. We replace plants that do not arrive in a living condition, if you handle as we advise. But you pay the postage and fees on replacements. It is advisable to send by air on long distances. Express shipments are usually quite safe.

**Alpha. Dwarf.** Deeply lobed, golden green leaves with narrow rust zone and large, dark, glowing scarlet flowers. \$1.00.

**Crystal Palace Gem.** Yellow green leaves with deeper green central blotch. Scarlet flowers. \$1.00.

**Distinction.** Small, round green leaves, toothed on edge, with a sharply outlined dark zone close to edge. Compact small plant. Often first choice of local customers. Cherry flowers. \$1.25.

**Happy Thought.** Striking, scalloped leaves, white center with splashes reaching thru the green border. White area veined green. Red fls. \$1.00.

**Jubilee.** Bronze yellow leaves with broad rust brown zone. Grows well outside. \$1.00.

**Miss Burdett Coutts.** Silvery green leaves bordered with ivory and a zone of brilliant red and brown. Easy to grow and one of the most brilliant in color. \$1.50.

**Mrs. Cox.** Green leaves edged yellow. The wide zone is brilliantly splashed scarlet, crimson and brown. Very rare. \$1.50.

**Skies of Italy.** Sharply lobed green leaves with wide brown zone, splashed red. Older plants become very colorful. \$1.25.

## THE GESNERIA FAMILY — Gesneriaceae

This family includes the following genera: Gloxinia, Saintpaulia, Espicis, Achimenes, Smithiantha, Streptocarpus, Aeschyanthes, etc. Some of these are listed in our spring catalog. Our Achimenes are now blooming and it appears that we will again have a large crop. See our Spring Cat., out in Jan.

I am pleased to tell you that the Gesneria Society has recently received new impetus under the leadership of E. F. Smith, sometimes known as Plantsmith, as temporary President. You are invited to join for the rest of this year for \$1.50. You will receive two news letters and later you will receive the year book. Send to Mrs. John F. Darsow, 3749 Linders Dr., Palo Alto, Calif.

**Gloxinias.** We have no tubers for sale this fall but we advise that you plant seed as they flower in five months from seed.

**Gloxinia Culture.** The soil may be one part by volume of sharp, coarse sand and 2 parts peat or peat and leaf mould. Add 1 tablespoon bone meal and 1 teaspoon blood meal for a 6" pot. Mix thoroly. Set tuber a little under soil surface and mulch with ½" wet sphagnum. Last of all water until a little runs thru at bottom. These are tropical plants. The best starting temperature is at least 80°. They will start, but a little more slowly at 70°, with 60° or over at night. Keep the pots moist and they can be in full sun until foliage appears, then slightly shaded. The plants need good light and more sun than most Gesneriaceae. Leggy plants result from insufficient light. Fertilize with Spoonit or liquid manure about every 3 or 4 weeks. Sun must not touch wet foliage.

**Gloxinia Seed, Houdyshels,** saved from our named varieties, assorted. This contains the largest number of seed. **Antonelli hybrids,** from their best new varieties, assorted. 10 or more seed. **Beacon.** Rich dark red flowers. This and the following named varieties come true to name. **Crimson Glow.** Name describes color. Free blooming. **Rose Sensation.** Brilliant carmine rose. **Swiss Emblem.** Brilliant scarlet red, white margin. Your choice of packets 50c ea. The 6 packets for \$2.75. The number of seed in each packet is in proportion to their unit value and from 10 to 50. Tho tiny every seed grows. Send stamped, addressed envelope for all seed packets. Also 3% sales tax for California.

**Culture.** Place fine grained vermiculite or terralite in the bottom of a plastic refrigerator dish 3" to 4" deep and moisten well. Plant seed very thinly over surface. Keep covered with lid until plants are ready to pick out. One must make sure that moisture does not escape and add water if it does. They may be picked out and transplanted into 2" pots after second pair of leaves develop. We also plant seed in 9" pans, half filled with peat and milled sphagnum. When planted cover pot with glass. We grow many rare seeds by either method, including African Violets. Gloxinias flower at about 5 months.

**Streptocarpus** are fibrous rooted evergreen and can only be moved as growing plants. The culture is much the same as for Gloxinias except as to temperature. They thrive in a cool house and are easily grown in a lath house in summer. The color range is similar. The flowers are smaller and freely produced. They are followed by long twisted seed pods, hence their name. Blooming size, \$1.00. Double plants, \$1.50.

**Streptocarpus seed.** Assorted colors from fine strains. Handle as advised for Gloxinia seed. \$1.00/pkt. and self addressed stamped envelope.

**S. Wiesmoor Hybds.** These are claimed to be entirely new and superior to any others. Fls. resemble orchids and are on wiry stems, useful for cut flowers. These are Dutch import and expensive. You therefore get fewer seed for \$1.00. (Stamped, addressed envelope.)

**Episcias** resemble African Violets in form and other ways, yet are entirely distinct. African violets flower profusely. Episcias are very showy foliage plants but have brilliant, usually red, flowers, not so freely produced. They are natives of the American tropics, not African. Their flowers are solitary or clustered, not in cymes as in African Violets. The resemblance is casual, not botanical. But their red flowers and general contour of the plants have resulted in promotion of *E. fulgida* (often sold as *E. coccinea*) as a Red Violet. They are very tender tropicals and should not be colder than 60°. At about 50° they are



badly damaged or killed, hence cannot be shipped when likely to encounter temperatures under 50°. They make stolens or runners like a strawberry and new plants are made in a similar manner. We plant in baskets of sphagnum and hairpin the little plants on stolens to sides and bottom of basket. Or stolens may be allowed to hang as jewelled pendants. Flowers are usually bright scarlet and foliage usually villous, or hairy and velvetlike. They may also be grown in pots, same soil as African Violets. Either way they require constant moisture. When you receive the plants do not remove or tear apart the mass of sphagnum which contains their delicate roots. Plant the entire mass.

**Episcia cupreata.** Type variety. Red flowers. Very dark bronze leaves with a slight silvery tone along midrib.

The following are cultivars or sports of *E. cupreata*. All have the same red flowers.

**E. Acajou.** Dark bronze with wide silvery green midrib.

**E. Chocolate Soldier.** Dark chocolate with narrow silver midrib.

**E. Emerald Queen.** Dark green with silvery green midrib.

**E. Frosty.** Prevailing color is the frosty green, spreading to leaf margins from the center and toward the margins are markings of dark green.

**E. Harlequin.** Very shiny leaves, wide green zone along midrib with very dark greenish bronze between pinnae from the midrib.

**E. metallica ("Kitty").** Leaves densely covered by short hairs, or villous. Very dark bronze with silvery pink center stripe in midrib. Reverse side, vinaceous purple. We have been listing this as *E. lilacina*, as labelled when bought.

**E. Silver Sheen.** Silvery green leaves, narrowly bordered dark green.

**E. Sylvan Beauty.** Green central zone with greenish bronze on outer portion.

**E. Splendens. (Variegata).** Silver green markings on emerald green background. This is the last of *cupreata* cultivars.

**E. cupreata, var. viridifolia.** Nile green leaves. The best bloomer of all.

**E. fulgida. (Coccinea, Red Flame Violet).** Medium bronze with silvery green veins. Lovely red flowers,—but not a "violet."

**E. lilacina,** type variety (Fanny Haage). Large lilac flowers. Broad green center on greenish bronze background. \$1.00 each. All 13 varieties for \$10.00.

**Special.** We can now offer the rare **Episcia dianthiflora**. This is a vigorous grower with small green leaves and white flowers with fringed petals in spring and summer. \$1.75.

**Columnneas.** Are epiphytic climbing vines, having large, vivid red flowers. They may be grown in pots, soil similar to that of other Gesneriads but we prefer to grow in wire baskets of pure sphagnum or with the center of sand and peat, equal parts.

**Columnnea gloriosa.** The most profuse bloomer. **C. Schiedeana**, very large, thick stems. **C. microphylla.** **C. Banksii.** **C. Allenii.** Plants that should flower in their next season, \$2.00.

**Reichsteineria** is now the valid name for plants formerly known as *Gesneria* and later as *Corytholoma*, the species is still probably *cardinalis*. The large brilliant red flowers are attractive. Grow the seed as for *Gloxinia*. Seed packet 50c and stamped, addressed envelope.

## AFRICAN VIOLETS — Saintpaulias

Few would question the statement that African Violets are the most popular house plant at the present time. They fit perfectly into the modern smaller homes and rooms, where things are fixed or built in. Every convenience in a small space. They may be grown in an east, south, west or north window or even the basement if given artificial lighting and correct temperature.

They win favor because of their daintiness and beauty, their everblooming habit, their diversity in foliage, flower color and form. The introduction this year of double pink varieties, for the first time have enhanced their popularity. There seems to be no limit to their possibilities in the hands of breeders, except that their color range can never include yellow or true spectrum red. The reds are always purple toned.

**Culture.** The question most often asked is, "How can I get constant bloom? My plants are healthy and grow luxuriantly. The foliage is deep rich green, beautiful plants but no flowers." The answer is, you do not give them enough light. Note the discussion under **Sun exposure**.

The advised **range of temperatures** for winter is 60° at night and 70° daytime. They might do a little better at 10° higher but that is uncomfortable for people in winter clothing and summer brings about 10° increase, in our living rooms.

The plants do not like sudden changes nor great changes. A nearly even temperature, within a limit of 12° between high and low is better. They are bound to have a greater range sometimes and if not more than about 15°, they are unlikely to lose their flowers. Loss of flowers is the first evidence of something wrong. This may result from sudden changes, drafts, too high a temperature in summer and in winter it may result if temperature goes much under 60° for more than an hour or two. Or it may result from too low relative humidity. This should be 40 to 60%.

African Violets grown at a congenial temperature are usually killed if subjected to lower than 40°. Therefore it is impossible for us to send you plants by mail in winter, to a cold climate. In favorable weather we can usually send to warmer sections of the south. Express is safer. Nor do we ship on very hot days in summer. We plan to ship so that they do not arrive to you on a week end and thus remain in a carton a day or two longer.

**Watering.** Do not use cold water. The water should be near the room temperature and never over 10° lower or higher. Most of our watering is done by spraying with a hose. The plants need to have the foliage sprayed and it does not spot the foliage if no sun falls on the foliage before they dry off. The interval between waterings should be long enough to permit the top soil to become slightly dry. Do not use pots that have no hole at bottom for drainage. Use sub-irrigation infrequently. We prefer regular pot watering rather than use of wicks.

**Good ventilation** is needed by all plants but Saintpaulias do not like drafts. Slow movement of air currents are more conducive to their comfort.

**Soil formulae.** Plants have a considerable tolerance and do well in a wide variety of soils. They should be at least mildly acid in reaction and a type that will drain easily and quickly. Heavy clay soils, therefore, are not good. We use about one half compost, one half peat with enough Sponge Rok to give good drainage.

If you are unable to supply your own soil mixture, the best we know about is Black Magic or Georgia Peat African Violet mix. Both are listed under "Supplies" in this catalog.

**Fertilizers.** We use only Spoonit and recommend it to be applied once a month, on a day following watering. See our listing under Garden Supplies.

**Sun exposure.** Most of the advice one receives over-emphasizes shade. Lack of sufficient light intensity is one of the most frequent causes of non-blooming. All shade plants need a certain amount of modified sunlight to make them flower. In the winter, the sun is at a low declination. Its rays must pass thru several times the thickness of atmosphere penetrated at noon in the summer when the sun is directly above or at "high declination." Very little shading is needed on the greenhouse in winter. Treated thus, our plants bloom profusely all winter. Very likely, plants in a south window, anywhere in the north temperate zone, in winter, will be sufficiently shaded on the brightest days by a thin muslin curtain. It may not even be needed at all and on days of less than maximum intensity remove the shade.

But summer sun is much stronger. One must give more shade. It should not, however, be too heavy. The color of the foliage will tell you what they can endure. When healthy plants have light, yellowish foliage they probably receive too much sun. Medium green is about right. Very dark green foliage indicates insufficient light and lack of flowers corroborates it. For checking, select a plant having green foliage, under normal conditions, not a dark foliage plant like Holly or Pink Delight nor one like Frosty having ivory or white areas.

If your Saintpaulias do not flower altho they grow well and appear to be healthy, you need to check on all points we have mentioned. Light intensity and duration are important. In the far north we have customers near the Arctic Circle where there is full daylight only in summer. Here the only possibility of winter flowers is the use of artificial light. They express interest in fluorescent lighting. Mrs. Rector, in *How To Grow African Violets* (which you should have,—see our book list,) says that an 80 watt fixture, 18" above the soil, has been found to give good growth and free flowering. Greenhouse growers who force lilies for Easter are able to advance the blooming date by the use of electric light. Any kind of light will do provided the plants receive 15 to 30 foot candles (as measured by a photographic light meter) for 12 hours duration, daily. This should be tried in the Northern states where winter days are short and dull.

**Humidity.** The humidity of our homes is likely to be not much over 25%. One can increase the humidity around the plant sufficiently by setting the plants in saucers or in a long tray that will hold several pots. A chick feeder with guards removed makes a good tray. These may be partly filled with small gravel. Set pots on top of gravel and pour in water until it does not quite touch pots. Vases of water set in among plants will help. A saturated sponge in a shallow dish will help humidify air. If you have a greenhouse, keep the walks wet.

**Pests.** Be sure to keep your plants free of insect pests. One of the most common on house plants is the **mealy bug**. Examine plants frequently for pests. Mealy bugs look like tiny specks of cotton. One way to remove and kill them is to use a bit of cotton on the end of a toothpick. Dip the cotton in alcohol and pick off the bugs. Wonder Garden Spray, used as a spray is effective. A badly infested plant should be discarded or at least removed from the vicinity of all other house plants. All effective insecticides are poisonous. You must not breathe the fumes. You must avoid skin contact. See our listing.

**Cyclamen mites** are most destructive. The center of an infected plant takes on an abnormal appearance and changes to a different color, usually grey. It becomes rough in appearance and young foliage is misshaped. Mites spread to all the plants and effective measures must be at once applied. We have found the most effective remedy is to spray with Wonder Garden Spray, which is listed under "Supplies." Immediately remove infected plants into quarantine. Do not handle infected plants, then healthy plants.

Customers are invited to visit our nursery when in Los Angeles area. Drive east on Garvey, N. on Azusa, E. on Arrow Hwy. to Esther St., S. one block, or take La Verne Bus. Get off at Firey and walk west one block to Esther. Then south one block.

Distant states, Hawaii, Alaska, Cuba, Europe, etc., should include enough for delivery by Air Parcel Post. We have shipped as far as Denmark, nearly 6,000 miles, this way and plants arrived in almost perfect condition. They did not quit blooming. We charge the customer the excess of Air Parcel Post above the cost of Parcel Post to our 8th Postal Zone. Please state in your order that you will pay the difference promptly if your estimate is too low. But send your estimated amount with order.

**Starting leaf cuttings.** A good many growers start cuttings in water. We believe a better way is to start in terralite, (a fine grained form of vermiculite), kept moist and in good light but no sun. Long distance shipments should go by air, the same as for plants. If leaf is wilted, soak 2 hours in weak vit. B<sub>1</sub> solution.

**Sales Tax.** Californians must include 3% Sales Tax. Out of state customers sending plants as presents to California friends must also pay it. If this is not included with your order, delay results as we do not ship until sales tax is paid. Please read our "Terms and Instructions for Ordering," and comply on all points.

Please give substitutes as some varieties are in short stock. If substitute is left to us we will send as good or a better variety.

**Arctic Night.** Vivid dark blue double flowers. A sport of Bridesmaid. \$2.50.

**Bavaria.** Rich sky blue, distinct white edge which never fades. Shiny, quilted, emerald green leaves. \$1.25.

**Bernice.** New. Light blue, extra large double flowers. Created a sensation at the St. Louis Convention. Foliage, a soft medium green. \$2.50.

- Blue Belle.** Lovely, medium blue double. \$1.50.
- Blue Cushion.** A beautiful, very double dark blue. \$1.50.
- Blue Lady.** Large light blue flowers. Good bloomer. \$1.25.
- Blue Peak.** New. Very full double blue flower, edged white. Geneva type. Outstanding. \$2.50. Small \$1.00.
- Blushing.** New blush pink double, dark green plain foliage, very beautiful. Small \$1.25.
- Calif. Dark Plum.** Plum red flowers. Very good. \$1.50.
- Carmen.** One of the best reds. \$1.00.
- Clementine.** Frilled white flowers, girl leaf. \$1.25.
- Crusader.** New. Double red flower with dark green plain foliage. One of the most beautifully shaped plants. \$2.50.
- Double Inspiration.** Very beautiful double lavender flowers. \$2.00.
- Double Garnet.** Excellent red double. Prolific bloomer, dark green foliage. \$2.00.
- Double Orchid Rainbow.** A blend, dark to light orchid flowers. \$1.50.
- Double Pink Achievement.** Leaves only at present. \$1.00 ea.
- Double Pink Cushion.** The largest and best dark pink double to date. Medium green foliage. \$3.50. Leaf \$1.00. Available about October 1.
- Double Pink Cloud.** Beautiful, full double. Leaves \$1.00.
- Double Pink Dresden.** Leaves only at present, 75c. Only one in this list with girl foliage.
- Double Pink Ideal.** Light pink double. Leaves. 50c.
- Double Pink Heart Throb.** Excellent very double dark pink. Strong grower. \$2.00. Sm. \$1.00. Leaves 50c ea.
- Double Ohio Bountiful.** Dark double pink. \$2.00. Leaves 50c ea.
- Double Pink Rocket.** Dark pink with quite dark foliage. Leaves only 75c.
- Double Pink Sweatheart.** Very free flowering, dark fully double. \$2.50. Small \$1.00. Leaves 50c.
- Double Pink Victory.** Leaves only, 75c.
- Double Violet.** Something new in violet shade, large double flowers, dark green foliage. \$2.50.
- Fantasia.** A potpourri of dots, dashes and splashes of deep violet on background of lavender. Dark green quilted leaves. \$1.75.
- Finlandia.** Midnight purple, fringed blossoms on very glossy dark bronzy foliage. Ruffled leaves have bright red undersides. \$1.50.
- Floradora.** Exquisite, lively rosy orchid with purple overcasts. Large round fringed and ruffled blooms. Dark green ruffled foliage sporting deep rosy undertones. Most prolific in growth and blooming habits. \$1.50.
- Geneva Beauty.** Foliage similar to Mentor Boy, purple flower, white edge, does not fade. \$1.25.
- Giant Purple Monarch.** New. Sport of Purple Knight, largest flowered variety we have ever seen. When flowers are fully developed they are as large as 2½" inches. Deep purple. Supreme foliage. \$2.50.
- Gorgeous Bicolor.** Not new but a very good bicolor. \$1.00.
- Hi-Lo Light Blue.** Fringed and wavy flowers and foliage, excellent bloomer and long lasting flowers. \$1.50.
- Holly.** Leaves. Dark copper green. \$1.00.
- Honeymoon.** Sport of Silver Moon, having all the good flowering habits. Flowers light violet, upper petals slightly darker, sometimes with white flecks. 8 or more flowers well above beautiful, large heart shaped leaves. \$1.50.
- Inamorata.** Beautiful, large, white double flowers with slight color tones. \$1.00.
- Lacy Lavender.** New. A double with exceptional merits. The color is a true lavender with a very full double lacy flower. Foliage medium green and plain. Very compact. \$2.00.

**Lavenda.** Rose pink double. A new shade in African Violets. Makes a very beautiful plant. Sm. \$1.25.

**Lavender Delight.** Large double flowers, light wisteria violet, deeper color in center. Leaves forest green, quilted. \$1.25.

**Los Angeles.** Flowers are very large, hortense violet. Leaves ovate, medium green. Fully double. \$1.25.

**New Dawn.** Heart shaped, rather pointed leaves; with good light, leaves are very dark. Reddish orchid flowers. \$1.25.

**Orchid Velvet.** Very large flowers, free flowering. Dupont leaves. \$1.25.

**Painted Girl.** Snowy white, glistening as if covered by diamond dust, bordered by orchid. Very popular. \$1.25.

**Peach Blossom.** Rose pink with girl foliage. \$1.00.

**Pink Cheer.** Deep pink flowers. \$1.25

**Pink Wonder.** Patented. Very beautiful deep pink. Large round flowers. \$1.25.

**Purple Lace.** Flowers blackish violet and frilled, long lasting. Foliage frilly with red underneath. \$1.00.

**Queen's Cushion.** Fullest double flower you ever saw. A deep purplish orchid shade. Plain green foliage. \$1.50.

**Red Princess.** Crimson wine red. \$1.50.

**Red Wing.** Large rose red flowers, heavy plain green foliage. \$1.50.

**Revelation.** Two tone reddish purple, double. Dark foliage. \$1.25.

**Show Aristocrat.** Large double blue and white flowers up to 2" across. \$1.50.

**Show Darling.** Very pale light blue double. \$1.25.

**Show Day.** Single white with blue center flowers up to 2". \$1.50.

**Show Man.** Mammoth single white. Very heavy bloomer. \$2.00.

**Silver Moon.** Lovely white. Blooms here all the time. \$1.50. Sm. \$1.00.

**Snow Prince.** Excellent large white. \$1.25.

**Springfield Beauty.** Very large blue double. Fine variety. \$1.25.

**Spanish Lace.** New. Large dark blue flowers, ruffled edges like Ruffled Queen. \$2.50.

**Starglow.** A sparkling white with fringed flowers. \$1.25.

**Texas Fringe.** Leaves are very dark green with light green veins, red underneath. Flowers rich orchid and always fringed. Prolific bloomer. \$2.25.

**Velvet Queen.** New. Flowers ruffled edges, orchid color, hybrid seedlings from Ruffled Queen. \$2.00. Sm. \$1.00.

**Wintergreen.** Variegated foliage, green and white. Blue and white double flowers. \$2.00.

**White Madonna.** Double white with girl foliage. \$1.50.

**White Pride.** New. Very large double pure white flower, an outstanding variety at the St. Louis Show. \$2.50.

**Beginners Collections.** Our selection. Let us know what you have and we will not duplicate. 1 blooming size African Violet \$1.00. 2 for \$1.75. 3 for \$2.50. 5 for \$4.00.

African Violet Leaves. 35c Ea. 3 for \$1.00. 12 for \$3.00. Over 12 leaves 25c ea.

All Glow	Blue Velvet	Detroit Girl
Alma Wright (Dbl.)	Blue Warrior	Dream Girl
America	Bountiful	Dupont Lav. Pink
Aurora	Bronze Fringette	Dupont Lav. Girl
Autumn	Calif. Dark Plum	Dusty Princess
Ballerina Bolero	Campfire Girl	Easter Bunny (Dwarf)
Bavaria	Caracol	Eclipse
Blue Heiress	Carmen	Edith Cavelle
Blue Jewel	Christina	Edna Fischer (Dbl.)
Blue Lady	Christmas Star	Evening Sunset
Blue Ohio	Clementine	Falcon
Blue Tiara	Corsage (Dbl.)	Fairy Queen



Fairy Tales	Marine	Sea Girl (Dbl.)
Frilled Dupont	Maroon	Show Blue
Gaicho	Maro	Show Darling (Dbl.)
Geneva Beauty	Mission Belle	Snow Hope
Gorgeous Rainbow	Moonlite	Show Knight (Dbl.)
Gorgeous Bicolor	Morning Dawn	Show Lady (Dbl.)
Grand Award (Dbl.)	Navy Bouquet (Dbl.)	Silver Lining (Dbl.)
Grotei	Nightingale	Silhouette
Helen Montgomery	Noveta	Snow Line (Dbl.)
Helen Wilson Bouquet (Dbl.)	Orchid Geneva	Snow Prince
Hi-Loa Cabolt	Pacific Shadows	Star Amethyst
Hi-Loa Purple	Painted Boy	Starglow
Hi-Loa White	Pandora (Granger)	Summer Skies
Holly	Pansy Beauty	Taffeta
Improved Red Geneva	Pansy	Temple Pink
Indianola	Pink Cheer	Temple Satin
Indian Girl	Pink Shocking	The Bride (Dbl.)
Inspiration	Portland Rose	Twilight
Innocence	Purple Lace	Variegatta
Iowa	Red Lady	Velvet Girl
Juno	Red Princess	Wayzata
King Lear	Red Wings	Western Girl
Lady Grace	Royal Emperor	White Madonna (Dbl.)
Lacy Girl	Royal Ripples	Wine Velvet
Lilac Time	Ruffled Beauty	White Caps
Lou Ann	Ruffled Treasure	White Corsage (Dbl.)
Majestic	Sailors' Delight (Dbl.)	White Lace (Dbl.)

African Violet Leaves. 50c ea. \$5.00 per dozen.

Appealing	Fischers' Powder Puff	Rose Pink Bouquet
Apple Blossom	Fischers' Rapture	Rhythm
Black Magic (Dbl.)	Fischers' Sparkling Burgundy	Ruffled Heiress
Blue Belle (Dbl.)	Fischers' Tinker Belle	Santa Cruz
Blue Cushion (Dbl.)	Frosty	Sea Shell Queen
Blue Cluster (Dbl.)	Frosty Nite	Silver Spoon
Brenita Girl	General Herkimer	Show Aristocrat (Dbl.)
Beggar Prince	Georgia Peach	Show Man
Bonfire	Glamorous Boy	Show Pink
Cinderella (Dwarf)	Improved Boyce Eden	Show Sensation (Dbl.)
Dbl. Orchid Rainbow	Lav. Pink Debutante	Sky Trailer (Dbl.)
Finlandia	Lorelei	Snow Fairy
Floradora	Mission Belle	Springfield Beauty (Dbl.)
Flash	Peach Blossom	Spring Bouquet
Frilled Dbl. Orchid	Pink Joy	Sugar Babe
Fischers' Attraction	Pink Melody	Sunrise Supreme
Fischers' Happiness	Pink Lace	Texas Fringe
Fischers' Harmony	Polar Ice	Traumerei
Fischers' Pandora	Prima Donna	Velvet Queen
Fischers' Loveliness	Purple Hour	Wintergreen
Fischers' Pink Fringette	Red Maid	Wintry Nite

## THE ORCHID FAMILY — Orchidaceae

Cymbidiums and Cypripediums may be grown in living rooms if humidity is increased by a method as we have advised for African Violets. Before buying, we suggest you send 25c for How to Grow Orchids. 10 pages. This gives good culture advice on

How To Grow Cymbidiums. Also send 15c for 1949 Orchid price list which gives culture of Cattleyas and how to pot them, culture of Cyripediums and other orchids in brief form. Thus you will know whether you can supply the correct conditions for growing.

**Cymbidiums** are very useful for corsage flowers. We can supply the following: **Butterfly**, cream to tan; **Doreen**, greenish bronze; **Giganteum**, red-brown; **Moir**, greenish bronze, barred rose; **Winter Cheer**, bronze and deep rose. Price \$2.50 per front bulb with foliage. **Madeline**, deep pink, \$5.00; **Hookerianum**, olive green, \$4.00. **Assorted varieties**, unlabelled, \$2.00. Multiply this price for clumps of two or more. The larger the clump, the earlier you may expect flowers.

We ship Cymbidiums, loose roots, and out of pot only. By Express, f.o.b. Potted Cymbidiums do not travel well unless in an expensive crate. If you want them to come by mail, send 75c extra per plant for extra heavy packing material and for postage. We ship by mail at your risk only so be sure to send the insurance fee, which will protect you. By mail you will save at least \$1.00 up to \$2.00 and we advise this if insured.

**Cyripedium callosum**. In shape, similar to our native Lady Slippers and closely related. Correct botanical name is Paphiopedilum but usually known as above. Flowers are fine for corsage. 3½" - 4" wide, white variously marked with green and purple veins and a brown purple lip. Blooms about Jan. to Apr., sometimes later. The best potting mixture is osmundine and sphagnum, equal portions. Require deeper shade than Cattleyas and Cymbidiums. Shipped only in pot, by express, f.o.b. Price reduced to \$5.50.

**Cattleyas**. We offer fine hybrids and species (only those species are included that produce fine flowers for cutting) that have been recently repotted in fresh osmundine. They will not need repotting for 2 or 3 years when they should be too large for their pots. **Our selection** of blooming size plants. Tell us what you have and we will not duplicate them. Price \$5.00, express, f.o.b. **C. Enid**, \$7.50, express, f.o.b.

If you are experienced in potting Cattleyas we can send out of pot plants, our selection, 3 or more pseudo bulbs for \$4.00 postpaid. Unlabelled plants, \$3.50.

**Bletilla hyacintha**. Lovely hardy, terrestrial orchid. Plant before Mar. 1. The best soil contains much sand and peat. 8 to 12 lovely little purple orchids on a scape 15" tall. Price 40c. 3 for \$1.00. \$3.50/doz. postpaid. \$25.00/100 by express, f.o.b.

**Osmundine**, best Florida brown grade, \$1.35/lb. postpaid.

For scale on orchids, spray with Thrip O cide. See listing under Garden Supplies.

## MISCELLANEOUS

**Anemones and Ranunculus. Ranunculaceae.** **Anemones** are mostly blue some are red, pink, or white. The flowers of this strain are mostly single which we prefer in Anemones.

**Ranunculus** range in color from red, pink, yellow to white. This strain produces the largest and most double flowers.

**Tecolote Ranunculus and Anemones**, large size for growing in pots or in the garden. This size gives larger fls. on taller scapes and forces well in pots. Price, either Ranunculus or Anemones, 2 for 15c. 50c doz.

**Culture.** Hardy only in deep south. It is best to start after summer heat has gone—in mild autumn weather. They can be started here in a flat of moist sphagnum moss, or sand in the cool shade of a tree. Don't forget to keep them moist. Transplant to garden in deep south or to pots in north. You can start them or grow them in a cool room in the house in winter. They should have sandy soil with peat added.

**Ctenanthe oppenheimiana, var. tricolor. Marantaceae.** A beautifully colored foliage plant. The foliage is striped light and dark green on upper surface with a few white stripes and blotches. The under side is maroon. Grow in 5" pots, acid soil—peat or sphagnum with sand. We will ship, out of pot, postpaid, for \$1.75, or in clay pots, by express, f.o.b., for \$1.75.

**Maranta Kerchoveana.** Rabbit Tracks. Nice, easy-to-grow shade plants, for pots. Acid soil. 75c.

**Peperomia.** Watermelon-striped leaves. They make a most attractive small foliage

plant along with other small plants like African Violets. Establish in a 4" or 5" pot, acid soil of peat, sand and leaf mould. Shade. 75c, if with other plants, or \$1.00 if alone.

**Ceropegia.** The following are vines having long trailing or twining stems. They may be grown in soil composed of loam, sand and leaf mould or peat, in pots or hanging baskets. Plant at once and keep only slightly moist until started. The flowers are very unusual. Prices are for small tubers or cuttings.

**Ceropegia Woodii.** Hearts on a String. Sweetheart vine. Rosary vine. Heart shaped leaves. The most desirable species. 50c.

**C. debilis.** Cylindrical leaves. Rapid grower. 35c.

**C. Barkleyi.** The oblong leaves are pointed at the apex. 60c.

## THE PINEAPPLE FAMILY — Bromeliaceae

Bromeliads include Billbergia, Aregelia, Aechmea, and many other genera.

Billbergias are most unusual and fascinating plants. Not only are the flowers in intriguing pastel shades but the floral display is made brilliant by the large vividly colored bracts that cover the scape. The leaves form a rosette and are more or less rigid. Some have brightly colored leaves and others are often mottled, striped or barred. All are desirable foliage plants.

**How to Grow Billbergias.** All are tropical, or semitropical epiphytes and thus are hardy in outdoor gardens only in the deep south. But they are all easy to grow in pots and add distinction as well as beauty to the window garden.

In pots, they should have a soil of  $\frac{1}{4}$  sand or sandy loam and  $\frac{3}{4}$  peat, or leaf mould. There should be plenty of drainage material in the pot as poor drainage may soon destroy them. Do not overwater when first planted or in winter when semi-dormant. Nor should they become dry enough to shrivel the foliage. In hot weather when they are growing well water liberally. Keep a drink of water in their cups in the center.

In the outdoor garden they should have the same soil as recommended for pots. A few, like "nutans," will grow in nearly any soil but will do much better in the type recommended. They do well on the trunks of Palms.

They need about half shade. Too much sun will burn and finally destroy the foliage. Those species and varieties having highly colored foliage do not develop their rich colors when too deeply shaded. Most of our plants are grown in a well shaded Clivia house. When well established and growing, richer colors may be brought out by giving a little more sun than we do. **Culture** of Aechmea and Aregelia is the same.

**Aechmea calyculata.** Bright green leaves, yellow flowers. \$2.00.

**Billbergia Burkholtzi.** Tall, slender, erect green leaves. Rose bracts, lavender fls. \$2.00.

**B. distachia.** Long, reddish green lvs., spotted cream. Rose bracts, blue and green fls. 75c.

**B. Elvenia Slosson** (Nutans x Alberti). Tall plant with very attractive flowers in spring. It takes a lot of postage and its fine quality makes it cost \$3.00 each.

**B. nutans.** Mid-winter, beautiful inflorescence on small plants. Fine pot plants. 75c.

**B. nutans x Cryptanthus acaulis.** Highly colored bronze and green leaves. Compact plant. \$1.50.

**B. pyramidalis.** Wide green lvs. Red fls. tipped violet, red bracts. \$2.00.

**B. rubro-cyanea.** Most colorful foliage, red and green spotted cream. Green fls. edged blue. Crimson bracts. \$1.00.

**B. speciosa.** Green lvs., striped on back. Green fls., tipped blue. Rose bracts. \$2.00.

**B. Theodore L. Meade.** Green lvs. and large, beautiful inflorescence, continuous all year on new growths. \$1.50.

**B. thrysiflora** (pyramidals x amoena). Finest hybrid. Beautiful inflorescence. \$1.50.

**B. Zebrina.** Lvs. banded white on back. Salmon bracts, green fls. \$1.50.

**Collection all 12 varieties.** Express f.o.b., \$16.00. By this method we can send larger plants. By mail, postpaid, \$18.00.

**Big 4 Collection.** Nutans, Distachia, Rubro-cyanea and Zebrina. Value \$3.50. Price \$3.25. Include Special Handling for these plants by mail.